

AIRCRAFT ACCIDENT  
IDENTIFICATION  
NO.

**601 25 101**

RECORDS CODE SHEET  
SND 4535 (Rev. 1/65)

NAVAL AVIATION SAFETY CENTER

GENERAL (Card No. 1)

SUPPLEMENTARY (Card No. 2)

Bureau Number	142095	16-21	Weather		16-21
Reporting Custodian	487	22-24	Kind of Flight	1 L	22-24
Type Duty	L	25	Relative Wind - Direction	6	25
Major Command	9	26	Relative Wind - Velocity	1	26
Aircraft Damage	A	27	Special Attention		27
Aircraft Injury	A	28	Clearance	2	28
Time of Day	2	29	Maneuver prior to Occurrence		29
Carrier Hull Number	-	30	Number of other Aircraft		30
First Accident type	X8	31-32	Primary Causal Factor	T	31-32
First Accident phase	31	33-35	Altitude of Occurrence or Emergency	028	33-35
Second Accident type	B3	36-37			
Second Accident phase	51	38-40	Environmental Factors		38-40
Type of Operation	31	41-42			
Contributing Cause Factors	300-3	43-47	Non-Navy Injury ("R")		42
Pilot Factor, First		48-49	Number of "A" or "U" Injury	01	43-44
Pilot Factor, Second		50-51	Number of "B" Injury		46-47
Pilot Factor, Third		52-53	Number of "C" Injury		48-49
First other Personnel Factor		54-55	Number of "D" Injury		50-51
Second other Personnel Factor		56-57	Number of "E" Injury		52-53
Primary Major Material Factor	T	58	Number of "F" Injury		54-55
Secondary Major Material Factor		59	Number of "G" Injury		56-57
Design		60	Location	AVIQUONS	62-68
Facilities		61			
Special Data & Cond.	11PX	62-65			
Special Data & Cond./Type of Incident		66			
Primary Cause	3-H	67	ACCIDENT DAMAGE	A	
1st Posit. of Pri. Causal Factor	T	68	ACCIDENT INJURY	A	
1st Possible Cause & Causal Factor		69-71	FISCAL YEAR	6	
2nd Possible Cause & Causal Factor		72-74			
No Personnel Card ("R")		80			

Don't Count	6	Enemy Action	01	Other Aircraft	01
I. D.	01	YR	01	DAY	01
NO.	01	MO	01	TYP	01
				SEQ	01

Model Code 014

PERSONNEL STATISTICS  
(Card No. 3)

File Number	(b) (6)
Name	RICHARDSON
Rank/Rate	42
Br Service	B
Age	5
Yrs Experience	1
Status	A
Position	1
Inj to Ind	1
Abandon A/C	1
Pilot Factor Involved	1
Trainer Utilization	1
Instr. Card	1
Total Time All Models	1
All Models 3 Months	1
All Series This Model	1
All Ser Mod 3 Months	1
CV Landings	1
Instrument Hours	1
Mile Hours	1
Total Time Jet or Helo	1

IBM: PERSONNEL CODED ON REVERSE SIDE

27 OCT 1966  
3 MAR 1966  
CLOSED

CODED RS REVIEWED dy LOGGED by PUNCHED m VERIFIED R  
CODE SHEET REVIEWED BY CLASS DESK ANALYST \_\_\_\_\_ (Initials) \_\_\_\_\_ (Date)

03-10-66



RICHARDSON Sx 22

I. D. No.	GCI.	Model	FY	Model Code
6012514	20	AWB	6	24

T.T. A.M.	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	I No. N of J cds.	Seq. of Indiv.
16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90	91	92
93	94	95	96	97	98	99	100	101	102	103
104	105	106	107	108	109	110	111	112	113	114

Cd. 65

T.T. A.M.	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	I No. N of J cds.	Seq. of Indiv.
16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90	91	92
93	94	95	96	97	98	99	100	101	102	103
104	105	106	107	108	109	110	111	112	113	114

Cd. 65A

T.T. A.M.	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	Equipment	I No. N of J cds.	Seq. of Indiv.
16	17	18	19	20	21	22	23	24	25	26
27	28	29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59
60	61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80	81
82	83	84	85	86	87	88	89	90	91	92
93	94	95	96	97	98	99	100	101	102	103
104	105	106	107	108	109	110	111	112	113	114

Cd. 65B

7 APR 1966

T.T. A.M.	TOP EGRESS AT SCS INF	E J T Prior	Egress Probs. During	Egress Probs. After	TYPE SEAT	FIRING METHOD	S EAC ATT POINT	E J T AIR- SPEED	WEIGHT	CHUTE OP. ALT.	IN CRASH AREA	TIME IN WATER	TIME IN RAFT		V E R T E B R A L	F R A C T U R E S	EJECT FAT. CAUSE	I N J U R Y	Seq. of Indiv.
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115

Aero-Med. Cd. 66

[illegible][illegible]

Time Alert in to Rte. Loc.	F a i l u r e	R e c o n d	Time Loc. to Rch.	Locator Means A.	Loc. Prob.	Surv. Sig. Probs.	T y p e A C	T y p e M i s	RESCUE PROBLEMS	RESCUE PROBLEMS	RESCUE PROBLEMS	RESCUE PROBLEMS	SURVIVOR PROBLEMS	S u r v i v o r C o n d.	S u r v i v o r C o n d.	Time Rch. to Acc.	Tot. Time	Res. Recs.	Seq. of Ind.																																							
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74

Aero-Med Card No. 69



*this is duplicate card - orig lost - already punched*

MAINTENANCE AND MATERIAL CODE SHEET (Narrative brief on reverse)

5ND 4621 (Rev. 10/64)

MAINTENANCE AND MATERIAL CARD NUMBER 33		CARD COL.
PRIMARY INVOLVED MATERIAL COMPONENT	T9999	16-21
SECONDARY INVOLVED MATERIAL COMPONENT		24-29
PROBABLE INVOLVED MATERIAL COMPONENT		32-37
SPECIAL DATA AND CONDITIONS	T15	40-42
SPECIAL DATA AND CONDITIONS	T36	44-46
SPECIAL DATA AND CONDITIONS		48-50
SPECIAL DATA AND CONDITIONS		52-54
SPECIAL DATA AND CONDITIONS		56-58
SPECIAL DATA AND CONDITIONS		61-63
FIRST MAINT FLT/SPEC COMPONENT		65-68
CARD NUMBER	3 3	79-80

MAINTENANCE AND MATERIAL CARD NUMBER 35		CARD COL.
PROBABLE OR SECONDARY INVOLVED MATERIAL COMPONENT:		
MFG P/N		16-31
TOTAL HOURS		34-37
OVERHAUL ACTIVITY		39
NUMBER OF OVERHAULS		41
HOURS SINCE OVERHAUL		43-46
POWER PLANT MODEL NUMBER	J65W16A	49-56
POWER PLANT SERIAL NUMBER	612429	58-64
DIR	2	68
CARD NUMBER	3 5	79-80

M&M CODING RECORD			
COORDINATOR			
DIVISION OFFICER	DATE CODED	CODED BY	LOGGED

MAINTENANCE AND MATERIAL CARD NUMBER 34		CARD COL.
PRIMARY INVOLVED MATERIAL COMPONENT:		
MFG P/N		16-31
TOTAL HOURS		34-37
OVERHAUL ACTIVITY	1	39
NUMBER OF OVERHAULS		41
HOURS SINCE OVERHAUL		43-46
AIRCRAFT TOUR	6	48
AIRCRAFT FLIGHT HOURS SINCE ACCEPTANCE	M	50
AIRCRAFT FLIGHT HOURS SINCE LAST INSPECTION		53-55
DAYS SINCE LAST AIRCRAFT INSPECTION	49	57-58
TYPE LAST AIRCRAFT INSPECTION	4	61
MONTHS SINCE PAR/OVERHAUL		67-68
CARD NUMBER	3 4	79-80

CAUSE FACTORS	
COMPONENT NO. 1	
COMPONENT NO. 2	
DESIGN	
POSSIBLE CAUSE FACTORS	
COMPONENT	
DESIGN	

ACCIDENT DAMAGE		Don't Count		Enemy Action		Other Aircraft	
I.D. NO.	60125181	YR	MO	DAY	TYR	SEQ	
ACCIDENT INJURY	10						
SPECIAL ATTN: ("X")							
Model Code: 24							

FOR IBM				FOR M&M FILING ONLY			
PUNCHED		VERIFIED		MODEL		BUND	
PUNCHED		VERIFIED		DATE		IDENT. NUMBER	

REPORT NUMBER
CUSTODIAN

ON FIRST TEST FLT  
 AFTER UNDERGOING PAR, PLT HEARD AN EXPLOSION IN ENG  
 SECTION AT 800 FT ALT. COMMENCED EMERGENCY LAN  
 PROCEDURE AND AT APPROX 1/4 MILE FROM RUNWAY AT 1ST  
 ADJUT ALTITUDE THE ENG APPARENTLY SEIZED. ACFT STRUCK  
 WATER ABOUT 90 FT FROM SEAWALL. IMVES REVLD FAILURE  
 OCCURRING IN FWD STAGES OF COMPRESSION SECTION CAUSED  
 BY INSERTION OF A FOREIGN OBJECT. ENG ROTATION HAD  
 STOPPED PRIOR TO IMPACT.

CARD NO.

79 80

3 6

3 7

3 8

3 9

4 0

4 1

4 2

4 3

4 4

4 5

4 6

4 7

4 8

4 9

5 0

5 1

5 2

5 3

5 4

5 5

5 6

5 7

5 8

5 9

79 80



U. S. NAVAL AVIATION SAFETY CENTER  
U. S. NAVAL AIR STATION  
NORFOLK, VIRGINIA 23511

Records

112/kn  
Ser 1254  
26 October 1966

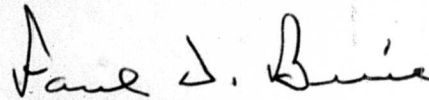
FOR OFFICIAL USE ONLY

SPECIAL HANDLING REQUIRED IAW OPNAVINST 3750.6 SERIES

From: Commander, U. S. Naval Aviation Safety Center  
To: Commanding Officer, U. S. Naval Air Station, Quonset Point, R. I.

Subj: NAS QUONSET PT AAR ser 1-66A concerning A-4B BuNo 142095  
accident occurring 25 January 1966, pilot RICHARDSON

1. The subject report and all endorsements thereon have been reviewed. Commander, Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers subject to the following remarks.
2. The fatality in this accident most probably would have been averted through adherence to ejection altitude limitations prescribed by the NATOPS manual. Rigid adherence to these limitations must be assured by thorough and repetitive indoctrination.
3. The A-4 NATOPS manual requires that commanding officers designate test pilots in writing and states that the most important single factor in getting good test flights is to pick experienced, conscientious pilots for this purpose. Pilots not experienced in the aircraft to be tested should not be accepted.
4. The cause of this accident has been recorded at the NAVAVNSAFECEN indicating MATERIAL FAILURE/MALFUNCTION (engine - FOD) as the single cause factor.

  
PAUL D. BUIE

Copy to:  
NAVAIRSYSCOMHQ (AIR 4042) (2)  
COMNAVAIRLANT  
COMFAIRQUONSET  
NAVPLANTREPO LONG BEACH

FOR OFFICIAL USE ONLY

DEPARTMENTAL COMMENTS FOR "CLOSE OUT" LETTER ON ORIGINAL  
REVIEW

- NOTE: 1. Negative report is required.  
2. Positive comments will be in a format suitable for inclusion in the  
"close out" letter.  
3. Attach additional sheets if more space is required.

M&M DEPT: No comment, other than the additional step of inspection,  
(enclosure 16 para 4) is presently required in preflight maintenance requirement  
cards. 221 D / mhw 2-26-66

*mentioned in para 4 of encl 16,*  
The final inspection prior to flight is mandatory  
and in accordance with Maintenance Requirement Cards.  
Had this inspection been made the FOD encountered  
may have been detected averted

15/20 (PREFLIGHT)  
Card 1 Item 5  
Card 3 Item 1  
INITIAL/CODE

AERO-MED DEPT:

*no comment*

INITIAL/CODE



U. S. NAVAL AVIATION SAFETY CENTER  
U. S. NAVAL AIR STATION  
NORFOLK, VIRGINIA 23511

Code 63/rs  
21 February 1966

NAVAVNSAFECEN INVESTIGATION 37-66

REFERENCES: (a) NAS QUONSET POINT msg 252230Z JAN 66  
(b) NAS QUONSET POINT msg 261832Z JAN 66  
(c) BUWEPSTLTREADREPLANT msg 282122Z JAN 66  
(d) NAS QUONSET POINT PDIR #214 dated 4 FEB 66

1. INTRODUCTION.

A-4B BUNO 142095, in the custody of NAS Quonset Point, R. I. and piloted by LT Phillip G. RICHARDSON, USNR, (b)(6) 1315 took off from NAS Quonset Point, R. I., on a scheduled initial test flight at 1332 (Local Time) on 25 January 1966. The aircraft had just undergone progressive aircraft rework (PAR) and engine overhaul at the Overhaul and Repair Department at NAS Quonset Point. After being airborne for approximately one minute and 30 seconds the pilot reported explosions in the engine and requested a straight in approach to duty runway 34. Clearance was granted and the pilot was advised that the arresting gear was inoperative due to frozen water. Three more radio transmissions by the pilot followed: (1) reporting dumping fuel, gear and flaps down (2) a position report 2 miles south and (3) do you hold me? At a position approximately one mile out on final approach, witness statements verified normal approach attitude speed and a "little high". At approximately 1/2 mile, low altitude was observed (75-100 ft) but the deteriorating situation was temporarily arrested with 3-4 second application of power. A puff of smoke was observed at approximately 1/4 of a mile and the aircraft was maneuvered into a slightly nose high attitude in an obvious effort to conserve altitude, sacrificing speed for distance. At 1336 the aircraft appeared to stall and spin, contacting the water nose down and came to rest inverted in six feet of water, 100 feet short of runway 34. The pilot sustained fatal injuries. BUNO 142095 was destroyed (ALFA damage) by impact forces. No private property damage was incurred.

2. INVESTIGATION AND ANALYSIS.

a. LT RICHARDSON was designated a Naval Aviator in 1960 and had accumulated 2120 total flight hours. LT RICHARDSON was a test pilot assigned to the O&R Quonset. His primary flight experience was in A-1 aircraft although he had accumulated over 100 jet hours, 46 in A-4 aircraft. LT RICHARDSON was considered to be outstanding in pilot ability.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6E

NAVAVNSAFECEN INVESTIGATION 37-66

b. The aircraft was accepted on 27 September 1957 and had been flown a total of 1977 hours since acceptance. At the time of the accident, the aircraft was on its initial test flight after having undergone its fifth PAR/Overhaul at O&R Quonset. Duration of the fatal test flight was four minutes.

c. The engine, J65-W16A serial W612029, was accepted on 16 September 1957 and 1471 hours operation had been logged. The engine had undergone six overhauls. The last overhaul was completed on 9 December 1965 at O&R Quonset.

d. Field investigation of the aircraft disclosed extensive salt water damage. The forward fuselage assembly to the aft edge of the cockpit enclosure was crushed beyond repair. Engine rotation had stopped prior to impact.

e. The pilot apparently made no attempt to eject.

f. The approach was executed with speed brakes extended.

g. A puncture was noted in the aircraft skin tangent to a break in the engine compressor upper housing. Compressor blades suffered varying degrees of extensive fracture and bending with conclusive evidence of blade "log jamming". Several blades in stages 1, 2, and 3 had leading edge damage. Damage to several leading edges closely matched the diameter of a No. 10 bolt (0.190 inches). Housing rubbing was noted and occurred severely at the first stage.

h. The combustion chamber inner and outer liners were metallized on the aft flange areas. All turbine rotor and stator blades were moderately metallized. Small particles of steel and aluminum were found throughout the engine interior and bearing cooling passages.

i. Small amounts of a red fiber material were found on the compressor section components and two particles were present in the cooling air passages at the rear main bearing sleeve. Material/laboratory examination determined that the red fiber was similar to that of warning streamers. The minute amount of fibers found is considered to be insufficient to conclude engine ingestion of a warning streamer.

j. At the time of this accident, three other incidents involving foreign object ingestion by jet engines were under investigation at NAS Quonset. All ingestions occurred within a 48 hour period.

k. All main engine bearings, gearbox assemblies and accessory drives were in satisfactory condition. Fuel system components were found to have no contamination. The fuel pump and fuel control were flow bench tested and met overhaul test limits.



NAVAVNSAFECEN INVESTIGATION 37-66

1. Snow removal operations are of a continuing nature during the winter months. Runway and taxiway sweep-downs regularly result in an accumulation of nuts, bolts, wire, etc. from yellow and snow removal equipment as well as other sources for FOD.

3. CONCLUSION.

The most probable cause of this accident is engine induction of a foreign object, probably of ferrous material, which caused compressor damage resulting in blade failure. At this time, while turbine blades were at operating temperatures, the blades were metallized with steel particles. The gross and rapid failure of the compressor during the critical stage of the final approach, induced a high sink rate which probably precluded ejection and committed the pilot to remain with the aircraft.

4. RECOMMENDATIONS

a. It is recommended that the Naval Aviation Safety Center continue emphasis on the FOD problem in Approach Magazine, stressing:

(1) The cost of a bolt versus the cost of a human life as well as the airplane.

(2) The need to understand that stations requiring snow removal are in "double jeopardy" inasmuch as snow removal equipment when subjected to heavy strains can easily shed FOD material.

(3) Even runway sweepers are a source of FOD material.

b. It is recommended that the Naval Aviation Safety Center, through Approach Magazine, encourage all Aviation Safety Councils to include FOD as a permanent agenda item, requiring unit representatives to continually report on the effectiveness of FOD measures within their respective units.

5. ACTION COMPLETED.

a. The Overhaul and Repair Officer at NAS Quonset Point has directed the establishment of an FOD Committee (O&R NOTICE 13720 dated 2 Feb 1966). Objectives of the Committee include:

(1) Evaluation of the effectiveness of aircraft cleaning procedures.

NAVAVNSAFECEN INVESTIGATION 37-66

(2) Evaluation of the extent to which an engine can be inspected for evidences of FOD at various processing stages.

(3) Assessment of the effectiveness of the ramp clean-up program.

Distribution:

LIST A

CNO (Op-05F)

4  
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6E

10/wn  
25 October 1966

MEMORANDUM

To: 01  
From: 10

Subj: NAS Quonset Point AAR ser 1-66A concerning A-4B BuNo 142095  
accident occurring 25 January 1966, pilot RICHARDSON

1. In this accident an O & R test pilot incurred engine FOD on takeoff or shortly thereafter. While attempting a landing back at Quonset Point he lost power and stalled, landing inverted in the bay and drowned.
2. The pilot was formerly in A-1's and had only 45 hours in the A-4. The closeout letter states that pilots should not be accepted as test pilots unless experienced in aircraft to be tested. It is presumed that an experienced pilot would have ejected within the envelope.
3. Suggest signature of 01.

Very respectfully,

  
D. G. PATTERSON



CNAL 30S  
Ser 1927  
19 APR 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

SECOND ENDORSEMENT on NAS QUONSET POINT ltr ser 371 of 18 March 1966

From: Commander Naval Air Force, U. S. Atlantic Fleet  
To: Commander, U. S. Naval Aviation Safety Center

Subj: Air Sea Rescue Facilities as utilized in Quonset Point AAR 1-66A;  
adequacy of

1. Forwarded.

*W.A. Kiernan*  
W. A. KIERNAN  
By direction

Copy to:  
BUWEPS (FSA)  
COMFAIRQUONSET  
CO, NAS QUONSET POINT  
BUWEPSREP LONG BEACH

321 B  
314  
3100  
Ser: 410

18 APR 1966

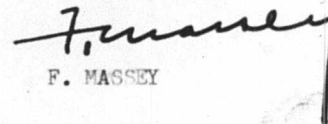
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

FIRST ENDORSEMENT on NAS QUONPT ltr ser 371 of 18 Mar 1966

From: Commander Fleet Air Quonset  
To: Commander, U. S. Naval Aviation Safety Center  
Via: Commander Naval Air Force, U. S. Atlantic Fleet

Subj: Air Sea Rescue Facilities as utilized in Quonset Point AAR 1-66A;  
adequacy of

1. Forwarded, concurring with the basic correspondence.
2. Air-Sea rescue facilities and procedures have been thoroughly reviewed since the accident reported by reference (a); both are considered adequate.

  
F. MASSEY

Copy to:  
COMNAVAVNSAFCE (2 direct)  
BUWEPs  
BUWEPsREP LONG BEACH  
CO, NAS QUONPT

NWSA  
FSA-3:WHH  
20 April 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66, OPNAVINST  
P3750.6E

FOURTH ENDORSEMENT on NAS QUONSET POINT serial 1-66A, concerning A-4B,  
BUNO 142045, accident occurring 25 January 1966, pilot RICHARDSON

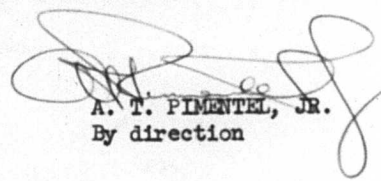
From: Chief, Bureau of Naval Weapons  
To: Commander, U. S. Naval Aviation Safety Center

Subj: Aircraft Accident

1. Forwarded.

2. A review of the oxygen shut-off valve in the A-4 aircraft has been completed. The present on-off oxygen control switch in the A-4 aircraft is a toggle lever with a positive overcenter cam operation which can only be operated by a direct force raising the lever and moving it forward or aft. A modification of the current switch would unduly complicate the oxygen shut-off system and require additional space which is not available in the small, already overcrowded A-4 cockpit.

3. In view of the destructive forces concentrated in the cockpit area, and since this is the first known accident in which the shut-off valve was accidentally closed, redesign of the oxygen shut-off switch is not at this time considered appropriate.

  
A. T. PIMENTEL, JR.  
By direction

Copy to:  
COMNAVAIRLANT  
COMFAIRQUONSET  
CO, NAS QUONSET POINT



CNAL 30S

Ser: **1380**

**23 MAR 1966**


SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

THIRD ENDORSEMENT on NAS QUONSET POINT serial 1-66A, concerning A-4B, BuNo 142045, accident occurring 25 January 1966, pilot RICHARDSON

From: Commander Naval Air Force, U. S. Atlantic Fleet  
To: Commander, U. S. Naval Aviation Safety Center  
Via: Chief, Bureau of Naval Weapons

Subj: Aircraft Accident Report

1. Readdressed and forwarded, concurring with the conclusions and recommendations of the Aircraft Accident Board as modified by subsequent endorsements.
2. Chief, Bureau of Naval Weapons is requested to comment on recommendation 5 of the Board.

  
F. W. JOHNSTON, JR.  
By direction

Copy to:  
COMNAVAVNSAFECEN (2 direct)  
COMFAIRQUONSET  
CO, NAS QUONSET POINT  
BUWEPSREP LONG BEACH

U. S. NAVAL AIR STATION

QUONSET POINT, R. I. 02819

IN REPLY REFER TO:

AS/NHG:jek

Ser: 3 7 1

18 MAR 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 (SERIES)

From: Commanding Officer, U. S. Naval Air Station, Quonset Point, R. I.  
To: Commander U. S. Naval Aviation Safety Center  
Via: Commander Fleet Air Quonset  
Commander Naval Air Force, U. S. Atlantic Fleet

Subj: Air Sea Rescue Facilities as Utilized in Quonset Point AAR 1-66A;  
adequacy of

Ref: (a) SECOND ENDORSEMENT on NASQUONPT AAR 1-66A ser 272 of 2 Mar 66

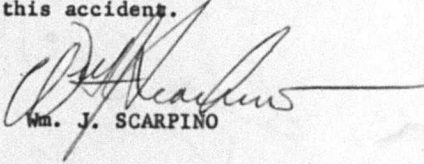
Encl: (1) AIROPSINST 9820.2A of 2 Apr 64

1. As requested by paragraph 1.b. of reference (a), the following comments concerning the adequacy of Air Sea Rescue facilities as utilized in subject AAR are submitted:

a. The Crash Boat equipped and operated in accordance with enclosure (1) arrived on scene within two minutes after aircraft went into water. A swimmer in an exposure suit was in the water around the aircraft within three minutes after the Crash Boat arrived on the scene and was available to assist the pilot had he been able to evacuate the aircraft. The swimmer did not observe any air bubbles or other activity in the vicinity of the cockpit.

b. A diver, sent down to ascertain the pilot's condition, was unable to enter or explore the cockpit because the aircraft was inverted with the cockpit enclosure firmly against the bay bottom. Further attempts to assist in this manner were useless until salvage operations began and the aircraft was lifted from the bay.

2. Air Sea Rescue facilities at NAS Quonset Point are considered adequate and to have been properly used in this accident.

  
Wm. J. SCARPINO

Copy to:  
COMNAVAVNSAFCE (2 direct)  
BUWEPS  
COMNAVAILANT  
COMFAIRQUONSET  
BUWEPSREP LONG BEACH

U. S. NAVAL AIR STATION  
Quonset Point, R. I.

AIROPS 9820.2A  
073/FAR:cfb  
2 April 1964

AIR OPERATIONS INSTRUCTION 9820.2A

From: Air Operations Officer  
To: Distribution

Subj: Crash Boats; operation of

1. Purpose. To promulgate instructions and procedures for the operation of crash boats.

2. Cancellation. This Instruction cancels and supersedes Operations Instruction 9820.2.

3. Responsibility. The Boat Branch Officer, or in his absence the Leading Chief, will promulgate the crash watch bill and shall be responsible for all water rescue operations.

4. Operating Procedures.

a. Two 40' AVR's and crews shall be maintained in a ready condition at all times. The duty crash crew shall be standing by and available on one minute's notice. The standby crash crew shall remain in the general vicinity of the Boat House.

b. One boat shall be on station whenever night FCLP's are in progress at the Naval Air Station, Quonset Point, R. I.

c. During normal working hours a crash boat will be scheduled for daily trips to Hope Island. The Boat Branch shall utilize this trip for crew training.

d. In cases of emergencies or precautionary landings, the duty crash boat shall proceed to the standby position depending on the duty runway or as directed by ENDIVE "O".

e. In cases of "Blue Phone" emergencies the duty crash and standby crash boats shall launch immediately and proceed as directed by ENDIVE "O". The diving boat shall proceed to the scene of the accident as soon as feasible. In case of inclement weather, the 63' radar equipped AVR shall be used as the duty crash boat.

f. Boats shall be manned as indicated:

63' AVR - 8 men

40' AVR - 4 men

g. All crash boats shall contain the following emergency equipment:

- (1) First aid kit
- (2) Crash kit
- (3) Spare life jackets
- (4) Litters

- (5) Sheath knife
- (6) Resuscitator
- (7) Blankets
- (8) Quick donning survival suit

ENCLOSURE (1)



AIROFSINST 9820.2A

073/FAR:cfb

2 April 1964

h. Each crew shall include a qualified swimmer and all crew members should be qualified to administer emergency first aid.

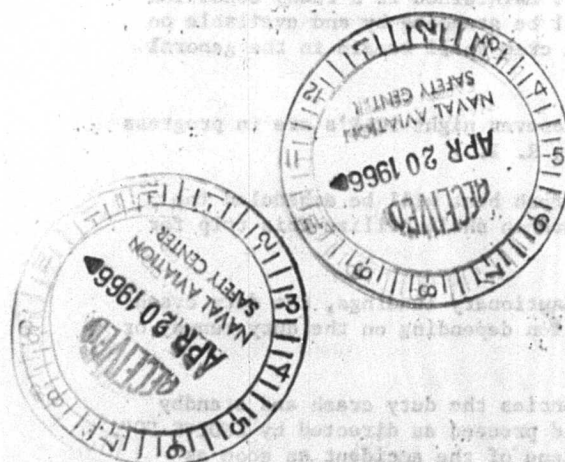
i. During winter months the duty crash boat and the standby crash boat shall be warmed up hourly.

j. Each coxswain before assuming duty crash or standby crash shall inspect his boat and insure that it is in proper running condition and that all emergency equipment is on board and operating properly.

A. H. CONN  
Commander, USN

DISTRIBUTION

List I, II, III



ORIGINAL

31  
3000  
Ser 272  
2 March 1966

SPECIAL HANDLING REQUIRED IAW OPNAVINST 3750.6 SERIES

SECOND ENDORSEMENT on NAS QUONPT 1-66A, concerning A-4B, BUNO 142045, accident occurring 25 Jan 1966, pilot RICHARDSON

From: Commander Fleet Air Quonset  
To: Commander, U. S. Naval Aviation Safety Center  
Via: Commander Naval Air Force, U. S. Atlantic Fleet

Subj: Aircraft Accident Report

1. Forwarded, concurring in the conclusions and recommendations of the board as modified by the first endorser with the following additional comments:

a. If the pilot did have adequate power to maintain the desired glide slope prior to engine seizure, as suggested by the first endorser, then his deep position (approximately  $\frac{1}{2}$  mile), upon reaching 200 feet, can only be explained by his concern with landing on the end of the runway. This is understandable since he was heavy and knew that the arresting gear was not available, but it is contrary to the NATOPS procedure for a low precautionary approach. Following this NATOPS procedure he would have been only 1000 feet from the approach end of the runway upon passing 200 feet and would have been able to land on the runway if the engine failed at any point below the 200 feet mark. In order to prevent handicapping test pilots in the future, initial test flights and engine change test flights for high performance aircraft should not be conducted without suitable arresting gear available.

(b) (5)



(b) (5)



*M. H. Tuttle*  
M. H. TUTTLE

Copy to:  
COMNAVAVSAFECEN (2)  
BUWEP  
COMNAVAILANT  
CO, NAS QUONPT  
BUWEPREP LONG BEACH

AA/JFW:mmn  
Ser: 2 0 6  
14 FEB 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH  
OPNAVINST 3750.6 SERIES

FIRST ENDORSEMENT on NASQUONPT AAR 1-66A, concerning A-4B, BUNO 142095  
accident occurring 25 January 1966, pilot RICHARDSON

From: Commanding Officer, U. S. Naval Air Station, Quonset Point, R. I.  
To: Commander, U. S. Naval Aviation Safety Center  
Via: (1) Commander Fleet Air Quonset  
(2) Commander Naval Air Force, U. S. Atlantic Fleet

Subj: Aircraft Accident Report; forwarding of

1. Forwarded.

2. An aggressive FOD prevention program is and has been in effect. This very important program is emphasized by command through personal attention to it, by frequent oral and written reminders and by adequate instructions. In addition a six-man board appointed in the Overhaul and Repair Department is investigating every aspect of the overhaul check/test procedures to eliminate any possible area of contamination.

3. Additional and continuing emphasis is placed on all facets of operations in accordance with NATOPS. Although it is conceded that this may have been a factor in the death of the pilot it should be pointed out that this endorser does not accept this conjecture as final. NATOPS prescribes a safe ejection envelope at or above 200 feet altitude. It would, therefore, follow that ejection below 200 feet is unsafe. From the statements of witnesses it appears that the pilot enjoyed adequate power for his approach to or beyond descent through the 200 foot minimum prescribed. Indications are that complete power failure occurred after passing the 200 feet minimum when the situation had passed through the point of no return and the alternatives of ejecting or riding the aircraft presented equally dangerous and impossible solution to the pilot. Taking into consideration the known outstanding capability of this pilot, it may be assumed that his evaluation of the situation included this known or calculated risk in an already dangerous decision to continue. Even though he reported an engine explosion and requested immediate clearance to land, it is obvious that cockpit indications did not preclude his continued attempt to return to the field. The fact that the aircraft was in a dirty configuration while well out on final approach attests to the availability of power and the ability to maneuver. It is conceded that an early decision to eject would probably have saved the pilot's life; however, a decision to eject after having passed through 200 feet in his descent would probably have had the same disastrous results.

4. Concur in recommendation No. 3. Because of the inherent danger in test flying, it would be highly desirable to have only the most experienced pilots assigned to this duty.



AA/JFW:mmn

Ser: 2 0 6

14 FEB 1966

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH  
OPNAVINST 3750.6 SERIES

5. The E-15 type arresting gear is scheduled to be installed on the Quonset Point jet runway in Fiscal Year 1968. Updating this requirement for possible earlier installation will be requested of higher authority.

6. Recommendation No. 5 is concurred in as action to be taken by higher authority.

  
Wm. J. SCARPINO

Copy to:  
COMNAVAVNSAFCEN (2 direct)  
BUWEPS  
COMNAVAILANT  
COMFAIRQUONSET  
BUWEPSREP LONG BEACH

## SECTION A. IDENTIFICATION

1. AIRCRAFT ACCIDENT BOARD APPOINTED BY <b>CO, NAS QUONSET POINT</b>	2. SERIAL NO <b>1-66A</b>	3. DTG (LOCAL) OF MISHAP <b>251332 JAN</b>	4. MODEL AIRCRAFT <b>A4B</b>	5. BUREAU NUMBER <b>142095</b>
6. TO: Commander, Naval Aviation Safety Center	7. VIA: <b>COMFAIRQUONSET</b> <b>COMNAVIAIRLANT</b>	8. 9. LOCATION OF MISHAP <b>90' short of sea wall, 300' short of R/W 34</b>	10. DAMAGE <b>ALPHA</b>	
		11. TIME OF DAY <b>1332</b>	12. TIME IN FLIGHT <b>00:04</b>	13. FLIGHT CODE <b>IL</b>
		14. CLEARED <b>FROM: NAS QUONSET</b>	<b>TO: NAS QUONSET</b>	
		15. TYPE CLEARANCE <b>VFR LOCAL</b>	16. AIRSPEED <b>113E</b>	17. A/C WEIGHT <b>Est. 14177</b>
18. BRIEF DESCRIPTION OF MISHAP <b>Engine seizure following internal explosion. A/C landed 300' short of R/W 34 in water</b>	19. ELEVATION AT TIME OF MISHAP <b>SL 0 TERRAIN Water</b>			

## SECTION B: CONTRIBUTING FACTORS

#	✓	FACTOR	✓	FACTOR	✓	FACTOR
		1. PILOT ERROR IN TECHNIQUE/JUDGMENT		9. SERVICING PERSONNEL		17. WEATHER
		2. PILOT DEVIATION FROM NATO'S PROCEDURES		10. LANDING SIGNAL OFFICER		18. DESIGN AIRCRAFT
		3. PILOT INCORRECT OPERATION OF A/C SYSTEM		11. OTHER PERSONNEL (Specify)		19. DESIGN CREW EQUIPMENT
		4. PILOT OTHER (Specify)		12. ADMINISTRATIVE		20. DESIGN OTHER (Specify)
		5. CREW	X	13. FACILITIES-RUNWAY, OVERRUN TAXIWAY, FLIGHT DECK Possible		21. ROLLING/PITCHING DECK ROUGH SEAS
	X	6. Possible MAINTENANCE PERSONNEL		14. FACILITIES-NAV AIDS, LANDING AIDS (CCA, CCA, ILS, MIRROR)	X	22. MATERIAL FAILURE/AAI/FUNCTION
	X	7. Possible MAINTENANCE SUPERVISORY PERSONNEL	X	15. Possible FACILITIES-CATAPULT, ARRESTING GEAR (Ship or field)		23. UNDETERMINED
		8. SUPERVISORY OTHER (Specify)		15. FACILITIES OTHER (Specify)	X	24. OTHER (Specify) FOD

## SECTION C PERSONNEL DATA

1 NAME (Last, first, & middle initial)	2 GRADE / RATE	3 FILE SERVICE NO.	4 BRANCH OF SERVICE	5 DATE OF SERVICE	6 AGE	7 YEARS EXP. DATA	8 DUTY STATION	9 POSITION	10 INSTRUCTIONS
PILOT (if controls at time of mishap) RICHARDSON, Phillip G.	LT	(b) (6)	1315	USNR	30	5 yrs.	Pilot	Cockpit	A
CO-PILOT (Identify & submit separate page 1)									

ITEM			ITEM		
11. ALL MODELS	2123.2		17. CV LANDINGS DAY/NIGHT	ALL	232 / 94
12. ALL MODELS IN LAST 12 MONTHS	321.0			IN MODEL	0 / 0
13. ALL MODELS IN LAST 3 MONTHS	109.0		18. FCPL LANDINGS LAST 6 MONTHS DAY/NIGHT	ALL	0 / 0
14. ALL SERIES THIS MODEL	A/C 45.8			IN MODEL	0 / 0
	OFT/CPT 2.0 / NA		19. INSTRUMENT HOURS LAST 3 MONTHS ACTUAL/SIMULATED	ALL	2.4 / 2.3
15. ALL SERIES THIS MODEL LAST 12 MONTHS	A/C 45.8			IN MODEL	0.0 /
	OFT/CPT 2.0 / NA		20. NIGHT HOURS LAST 3 MONTHS	ALL	16.9 /
16. ALL SERIES THIS MODEL LAST 3 MONTHS	A/C 45.8			IN MODEL	0.0 /
	OFT/CPT 2.0 / NA		21. TOTAL HOURS IN JETS (If jet mishap) <del>RECORD IN THE MATOPUS CHECKBOX</del>		105.8
22. LAST PRIOR FLIGHT ALL SERIES THIS MODEL			DATE	21 Jan 1966	
23. DATE/GRADE LAST MATOPUS STANDARDIZATION CHECK	6 December 1965		DURATION	0.7	
	QUAL		24. TYPE INSTRUMENT CARD	STAN	

25. NAME (Last, first, & middle initial)	26. GRADE / RATE	27. BRANCH OF SERVICE	28. FILE / SERVICE NO.	29. UNIT	30. INJURY	31. BULLET	32. POSITION

**SPECIAL HANDLING REQUIRED** in accordance with

OPNAV FORM 3750-1A (Rev. 3-63) Page

Para. 66, OPNAV INSTRUCTION 3750.6, (b) (5) - Information

#### F. OTHER REPORT

IDENTIFY OTHER REPORTS CONCERNING THIS WISMAP

1. AMPFUR SERIAL NUMBER \_\_\_\_\_

2. DIR MESSAGE REQUEST DATE-TIME-GROUP 261958Z Jan. Info NARC on DIR request. See para. 38 OF NAVINST 19730.6E

3. OTHER Preliminary message report of aircraft accident 252230Z Jan.

4. Supplementary message report of aircraft accident 261832Z Jan.

OP-OSF



1. EQUIPMENT INVOLVED <input type="checkbox"/> CATAPULT <input type="checkbox"/> ARRESTING GEAR		2. PRESSURE SETTING		3. WIND OVER DECK		4. RELATIVE WIND		5. APPROACH/END SPEED	
6. MARK NUMBER		7. MODEL NUMBER		8. LOCATION OF SHIP		9. LAUNCHING BRIDLE AND BRIDLE ARRESTER			
10. CATAPULT/ARRESTING GEAR BULLETINS OR NOMOGRAMS USED									
11. This portion shall be completed whenever (1) an aircraft accident involves arresting gear barrier and/or barricade equipment, or (2) an aircraft accident involves malfunctioning of arresting gear, barrier and/or barricade equipment. Incidents or routine damage to cables, weldings and other expendable equipment need not be reported herein.									
G. SHIPS DATA	ENGAGED	12. DECK RUNOUT (FEET)	13. RAM TRAVEL (INCHES)	14. CONTROL VALVE SETTINGS CONSTANT PRESSURE DOME (P.S.I.)      RATIO		15. CONSTANT RUNOUT (WT. LBS.)	16. ACCUMULATOR PRESSURE (PSI)	17. COMMENTS (for cable failures specify no landings and months in service)	
	DECK PENDANT								
	DECK PENDANT								
	BARRIER/BARRICADE								
H. DEPLOYMENT	FOR ACCIDENTS ABOARD CARRIERS (complete on pilot)								
	1. DATE DEPLOYED CONUS			3. DAY HOURS/LANDINGS SINCE DEPLOYMENT			4. DAY HOURS/LANDINGS LAST 30 DAYS		
	2. NO. DAYS OPERATING PERIOD			6. NIGHT HOURS/LANDINGS SINCE DEPLOYMENT			7. NIGHT HOURS/LANDINGS LAST 30 DAYS		
	5. INST. HOURS LOGGED SINCE DEPLOYMENT ACTUAL/SIMULATED								
I. WEATHER	WEATHER AT SCENE OF MISHAP								
	1. CLOUDS High, Thin Scattered	2. VISIBILITY 8 miles	3. RELATIVE WIND DIRECTION AND VELOCITY 060/6	4. TEMPERATURE RUNWAY - LINK OUTSIDE AIR - 33	5. DEW POINT 22	6. ALTITUDE SETTING 3020			
	7. OTHER WEATHER CONDITIONS (wind aloft, icing level, sea state, density altitude, as appropriate)								

PART III ADDITIONAL INFORMATION			
PART	SECTION	ITEM	REMARKS
		1	
			2. COPY DISTRIBUTION 200 NAWM/SAFECH DIRECT (AAR) 100 BUWEPs DIRECT (AAR) 1cc CO NASQUONPT 1cc BUWEPs REP LONG BEACH
COST DAMAGE TO:			5. DATE SUBMITTED TO CO 14 February 1966
3. GOVERNMENT PROPERTY 0			4. PRIVATE PROPERTY 0

PART IV SIGNATURES OF THE BOARD	
(b) (6) Aircraft Maintenance Officer (b) (6) NAS QUONPT Flight Surgeon	(b) (6) O&R Engineering & Quality Assurance Off. (b) (6) Aviation Safety Officer

\* When preparing Incident and Ground Accident reports, items indicated by an asterisk in the upper right hand corner must be filled in. Other items considered appropriate should also be filled in.

4. Member

(b) (6)

O&R Project Officer

5. Member

(b) (6)

AMD Airframes Officer

#### PART V - THE ACCIDENT

On 25 January 1966, A4B Bureau Number 142095, was scheduled for an initial test flight after undergoing Progressive Aircraft Rework (PAR) at NAS Quonset Point, R. I. LT RICHARDSON, whose call sign was 4 VICTOR 100, was assigned to make the flight. (See enclosure (1)). After a normal pre-flight in which no discrepancies were reported, the aircraft was started and taxied to the run-up area on runway 05. The aircraft was held in the run-up spot for approximately fifteen (15) minutes due to landing traffic. During this time evidence revealed that no aircraft taxied in front of him. He was then cleared to taxi to the approach end of runway 34. At 1328 local time 4 VICTOR 100 was cleared to take off and he reported that he was rolling. The take off appeared to be normal. When approximately three (3) miles northwest of the field at an altitude of about 800 feet the pilot heard an explosion in the engine section, and this explosion was confirmed by witnesses on the ground. He commenced a left turn to execute an immediate landing. One (1) minute and thirty (30) seconds, from time of take off clearance, he called Quonset tower and declared an emergency and requested an immediate landing on runway 34. The tower cleared him for an immediate landing and asked his position. He reported that he was about 5 miles west and had had an explosion in the engine. (See enclosure (2)). The tower gave him the wind direction, velocity, and altimeter setting and advised him of the fact that no arresting gear was available. No further contact, visual or radio, was made with 4 VICTOR 100 for approximately one (1) minute. At this time 4 VICTOR 100 was asked his position. He reported that he was one (1) mile south. The tower said that they saw him and that he was dumping fuel. His position was approximately two (2) miles south of the field at about 1500 feet, turning onto the final approach heading. The approach appeared to be normal until the aircraft was approximately one-half (1/2) mile from the end of the runway. At this point a rapid increase in sink rate was noted. Power appeared to be added and the sink rate stabilized. At approximately one-quarter (1/4) mile and 75 feet altitude the engine apparently seized. The attitude of the aircraft was seen to become more nose up and the sink rate increased sharply. Immediately prior to impact the wings were seen to wobble and the aircraft struck the water in a slightly nose high attitude with the right wing slightly down. Upon contact with the water the aircraft decelerated rapidly and the nose pitched down and dug into the water. The aircraft pitched up over its nose and right wing and came to rest inverted about ninety (90) feet from the seawall in seven (7) feet of water, on a heading of about 175° magnetic. (See enclosure (3)). Enclosures (4) through (10) are statements of eye witnesses. The total duration of the flight was approximately four (4) minutes.

#### PART VI - DAMAGE TO THE AIRCRAFT

As the aircraft contacted the water in a slight nose up, right wing down attitude, the first damage suffered was:

- a. Port and starboard flap buckled beyond repair
- b. Port aileron, inboard and outboard edges bent and dented

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

- c. Starboard aileron trailing edge buckled
- d. Port landing gear fairing and light damaged beyond repair
- e. Port and starboard landing gear doors distorted and torn beyond repair.
- f. Port and starboard wheel well doors distorted and broken beyond repair.
- g. Port and starboard wing leading edge from fuselage to wing station 64 torn, buckled and broken from leading edge aft to forward wing spar.
- h. Starboard slat, twisted and torn from stations 64 to 117.
- i. Starboard inboard landing gear fairing forward end torn.
- j. Starboard wheel well door hinge broken
- k. Nose gear door torn, most of door missing.
- l. Nose gear actuating cylinder broken.

The aircraft then settled into the water, the nose went down sharply and in an estimated water depth of 7 to 10 feet, the nose struck bottom. At this time, forward speed decelerated very rapidly as the aircraft nose section began breaking up and the aircraft rose to a vertical position. At this time, the forward speed was nearly expended and the following damage occurred:

- a. In-flight fuel probe broken off to station 128, remaining section was torn and bent down toward the underside of the fuselage.
- b. The fuselage nose section aft to station 70 was broken up and torn from the aircraft.
- c. The fuselage nose section from stations 70 to 108 (cockpit area) was broken and distorted, including the instrument panel, flooring, seat and controls.
- d. The windshield, complete, was torn from the aircraft and missing.
- e. The ASQ-17 was torn loose and hanging by the connecting cabling.
- f. The cockpit canopy was broken, the canopy frame, port, starboard and aft sections were still attached by its hinge. All remaining sections of the canopy frame were greatly distorted.
- g. Forward fuselage port side was buckled from stations 108 to 128.
- h. Forward fuselage starboard side was buckled from stations 108 to 134.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES



1. Fuselage bulkhead at station 125 buckled and torn loose on starboard side.

All of the remaining attached portion of the fuselage nose to station 128 was distorted toward the bottom of the fuselage (see enclosure (11)). As the aircraft continued beyond the vertical position to an inverted position (see enclosure (12)), the starboard and port engine air inlet scoops were distorted and bent from stations 125 to 180. Many rivets were broken out in these areas.

The aircraft first contacted the water approximately 200 feet from the seawall on a heading of 340°. Deceleration was very rapid and the aircraft came to rest inverted with the tail toward the seawall and approximately 90 feet from the wall. The tide was receding and at the time there was about 7 feet of water where the aircraft came to rest.

Salvage of the aircraft commenced at approximately 1430 hours utilizing a floating crane, YSD-34. The aircraft was hoisted by passing a cable sling around both main landing gear shock struts (see enclosure (11)). After hoisting from the water, the aircraft was lowered to the forward deck of the floating crane (see enclosure (13)). While lowering the aircraft to rest it on deck, the port engine air intake scoop was completely buckled and torn from stations 125 to 180 and the vertical stabilizer was crushed from stations 101 to 115. The rudder was also crushed from stations 99 to 114.

Upon arrival at the carrier pier, an additional floating crane and a PWD mobile crane were used in off-loading and turning the aircraft upright (see enclosure (14)). During the off-loading operation, the following damage was inflicted:

- a. The forward fuselage starboard was torn from the aircraft exposing the fuselage fuel cell.
- b. The nose gear shock strut upper attach fittings were broken loose from the fuselage.
- c. The aft fuselage, stations 342 to 400, was buckled and torn.
- d. The speed brakes, port and starboard, were buckled and bent along their aft edge.
- e. The elevators, port and starboard, were buckled from stations X50 to X66.

Upon inspection, an additional damaged area was found as a puncture from inside the fuselage, upper starboard, at station 218 at about 1 o'clock. This damage, a hole approximately  $\frac{1}{2}$ " x  $1\frac{1}{4}$ " was caused by a engine compressor blade that broke through the engine compressor case.

The following components were not recovered with the aircraft:

RT 220/ARN21  
15448-1A1

TACAN Receiver/Transmitter  
Amplifier Assembly

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

KY 81/APQ 89  
1305/20  
1305-13  
320911  
5547536


Coder Assembly  
Antenna APX 6  
Antenna ARN 21  
Sight Assembly  
Nose Cone

The aircraft had external fuel tanks installed on the wing stations. Both tanks were torn off on initial contact with the water. Both tanks were distorted and ruptured. They were recovered by crash boats at the scene. The aircraft, engine and accessories are being held at the Overhaul and Repair Department, NAS, Quonset Point, R. I. for salvage and or repair.

#### PART VII - THE INVESTIGATION AND ANALYSIS

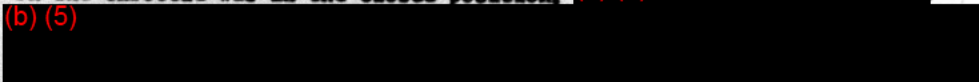
The cause of the accident was engine failure which was precipitated by the ingestion of FOD. (See enclosure (15)). When the pilot experienced an engine explosion approximately three miles after take-off, he probably had attained approximately 800 feet of altitude. Even though he probably suffered a loss of power at this time, he obviously had substantial power remaining. It appears that he correctly elected to enter the "low precautionary approach" pattern. Statements of witnesses vary, but the preponderance of evidence is that, due to population areas, he entered the "low precautionary approach" pattern at about two to three miles out at approximately 1500 feet of altitude in a dirty configuration and with sufficient power available at the time of entry.

When he reached approximately the one-quarter mile position, he had let his altitude diminish to approximately 75 feet. (b) (5)

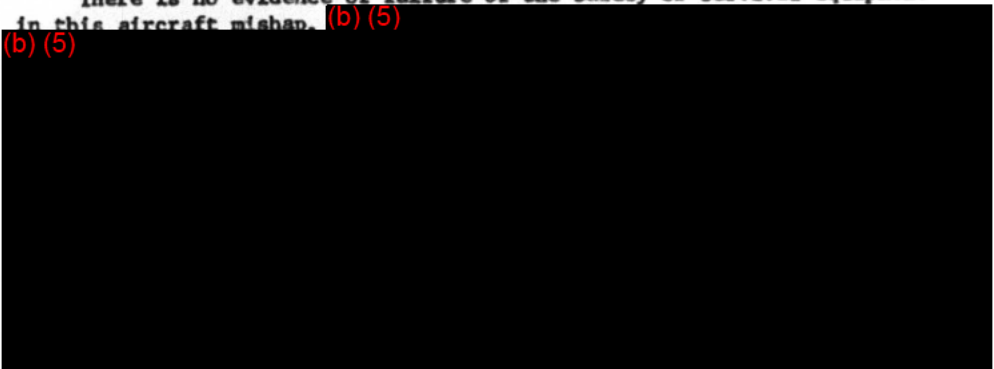


Investigation revealed no evidence of attempted ejection by the pilot. Even though the pilot was almost successful in getting the aircraft on the runway, his failure to eject prior to reaching the mandatory ejection point of 200 feet altitude and 1,000 feet from the end of the runway is difficult to explain. It appears that the pilot, in concentrating on getting the aircraft on the runway, passed through his mandatory ejection altitude without realizing it.

When the aircraft was recovered one speed brake was found to be open, one speed brake three-fourths open, and the electric speed brake switch on the throttle was in the closed position. (b) (5)



There is no evidence of failure of the safety or survival equipment in this aircraft mishap. (b) (5)



Even though this pilot had only 46 flight hours in the A-4, these flight hours had been recently attained. He possessed an outstanding knowledge of the aircraft and he possessed exceptional pilot ability. He consistently demonstrated tremendous enthusiasm about flying and he consistently remained calm, stable, and collected.

The fact that the pilot's military flight experience had been predominately in A-1 aircraft and the fact that he had recently attained approximately 60 flight hours in the T-1A, an aircraft with relatively good flare characteristics, conceivably influenced the outcome of the accident.

The aircraft had a newly-overhauled engine by O&R in its initial flight. Whether FOD was ingested during maintenance and line operations, or during taxi and take-off run is not known at this time. Problems concerning FOD ingestion are continuing to be aggressively pursued. (See enclosure (16)).

It appears that NATOPS was complied with except for the fact that the pilot allowed himself to get below the mandatory ejection altitude of 200' at well over the maximum horizontal distance from the runway of 1000'. When he reached this altitude of 200' at over a 1/4 mile from the runway he should have ejected. No change in the NATOPS Manual is considered necessary.

(b) (5)



#### PART VIII - CONCLUSIONS

It is the conclusion of the board that:

(1) The cause of this accident was engine failure which was precipitated by the ingestion of FOD. See enclosure (15) for details. When and where the FOD was ingested is not known.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES



(2) That the cause of the pilot's death was that he failed to eject at the mandatory ejection altitude.

#### PART IX - RECOMMENDATIONS

It is recommended that:

(1) Aggressive efforts be continued to eliminate the problems of FOD. This requires strict supervision of maintenance personnel, line personnel, and rigid air station FOD policing.

(2) That additional emphasis be placed on the mandatory ejection criteria in extremis situations as set forth in the NATOPS manual.

(3) That each jet pilot assigned to test fly O&R aircraft have completed a squadron tour in type.

(4) That all-weather arresting gear be installed on all jet runways.

(b) (5)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

NAS Quonset Point Serial 1-66A 25 January 1966 A4B BUNO 142095

Pilot: LT RICHARDSON

ENCLOSURES

1. Photo of O&R Flight Schedule Board
2. Transcription of Tower Transmissions
3. View of A/C Showing Position Relative to Seawall
4. Statement of CDR (b) (6), RATCC Officer
5. Statement of LCDR (b) (6), Asst. RATCC Officer
6. Statement of LCDR (b) (6), VS-32
7. Statement of LCDR (b) (6), VS-32
8. Statement of LCDR (b) (6), VS-32
9. Statement of (b) (6), ACC, Tower Supervisor
10. Statement of (b) (6), AC1, Local Controller
11. View of A/C Showing Damage to Nose Section
12. View of A/C Being Hoisted Aboard YSD-34
13. View of A/C on Deck of YSD-34
14. View of A/C During Righting Procedure on Pier
15. Engine Disassembly and Inspection Report (original only)
16. Statement of CDR (b) (6), O&R Production Manager
17. Medical Officer's Report (original only)







(b) (6)

TIME	PILOT	TYPE	BU. NO.	FLT.	FLIGHT DESIG.	EST. TIME	ACT. TIME	EST. DESIG.	NOTES
0814 L 11		A4E	151102	2					
0920 C 09		A4C	418593	2	DRIVE	10	10	10	25
0935-316		A1H	135371	1	DRIVE	10	10	10	25
		A4C							
0959 310		EAIF	32394	1	DRIVE				
0910-15		A4E	121097	2					
0915 B-24		AGA	149998	1					
0915 C-49		A4E	131112	1					
0920 311		A1H	139792	1					
0920 312		A4C	418593	1					
0920 313		A4C	142542	1					
0920 314		A4B	412041	1					
0920 315		A4B	142101	1					
0920 316		AGA	149948	1					
0920 317		A4B	142741	4					
0920 318		A4C	130536	1					

BASIC	WEIGHTS
A1H/2	15.000"
A1E	15.000"
EAIF	15.000"
EAIF	15.000"
A4B	15.000"
A4C	15.000"
A4E	15.000"
AGA	15.000"

O & R FLIGHT SCHEDULE BOARD

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

TRANSCRIPT OF TOWER TAPE RECORDING

ENC  
Tower 4 Victor, taxi into position and hold.  
4 Victor 4 Victor  
Tower 4 Victor, check the aircraft turning left off the end.  
Cleared for take-off.  
4 Victor 4 Victor, rolling.  
4 Victor Navy Quonset Tower, this is 4 Victor declare emergency.  
Immediate landing 34.  
Tower Roger 4 Victor, what is your distance and direction from  
the field, please?  
4 Victor I am just about 5 miles west of the field. Had an  
explosion in the engine of some sort.  
Tower Roger 4 Victor. You will be cleared to land on runway  
34. No arresting gear available. The winds are 20  
degrees at 5, altimeter 3020.  
4 Victor 4 Victor  
Tower 4 Victor, what is your position?  
4 Victor About a mile to the west  
Tower 4 Victor, your transmissions fading very badly. Request  
you keep me advised throughout your traffic pattern.  
4 Victor Do you hold me?  
Tower 4 Victor, do not hold you at this time, continue approach.  
Roger, I hold you now, you're dumping.  
4 Victor (garbled) Field/Fuel does it look like I'm dumping?  
Tower Roger, I have you.  
4 Victor Okay, roger.





VIEW OF A/C SHOWING POSITION RELATIVE TO SEAWALL  
 SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE (3)

26 January 1966

STATEMENT OF CDR (b) (6) /1310, RATCC OFFICER

I was in the tower when 4V100 called for an immediate landing. He reported that he had an engine compartment explosion. I ordered Chief Chesnutt, the tower supervisor, to pull the crash alarm telephone, which he did. I directed my initial attentions to the movement of emergency equipment and the availability of the runway. Runway 34 was clear and available; emergency equipment was moving into position; and the "A" stand controller, Reason, ACL, cleared 4V100 to land. He had reported his position as 5 miles west. (Meantime, I called OGR Flight Test Ready Room and reported 4V100's situation and asked them to pass the word to the OGR Officer).

We then searched the sky to the southwest for 4V100. He was sighted at a long 45 degree position at about four miles. I hesitate to estimate his altitude.

My main attentions were directed to the actions of tower personnel, crash and rescue equipment movements, and the passing of information. I was not critically aware of his speed, altitude or position until he was in close. I did observe that his wheels were down and he had at least partial flaps.

When 4V100 was at about 1/4 miles from runway 34 threshold, he was lower and slower than I wanted to see him. I remarked to another observer that 4V100 was not going to make it unless he had considerable power available. At that point, he increased his angle of attack and his power came on, quite visibly, for a few seconds and then suddenly decreased.

Immediately after the decrease he stalled. First, his left wing dropped, then his right, in quick succession. He seemingly fought them both successfully and then the nose dropped. I think he struck the water in a nearly flat attitude, some left yaw, very slightly right wing down. As soon as his wheels touched he flipped inverted in shallow water. No fire, no explosion! Crash site was about 300 feet from runway 34 threshold and about 125 feet from the retaining wall bulkhead.

At this point my attention was again divided. I checked the position of the crash rescue boat and the movement of the boat and crash trucks. I noted that all emergency equipment was given immediate clearance to the scene, that the field was closed to other aircraft traffic, that CDR (b) (6) the Air Operations Officer, departed for the crash scene, that the word was being passed on the crash alarm circuit. These actions took only a few seconds. I then telephoned the Executive Officer, who already had the word from the crash circuit. He stated that he would inform the Commanding Officer.

Thereafter my efforts were divided between assisting rescue efforts and diverting airborne traffic.

I am the RATCC Officer, RATCC #6, Naval Air Station, Quonset Point, Rhode Island. I am a Naval Aviator with twenty-three years of flying experience.

(b) (6)



At approximately 1830Z I was notified via the crash phone circuit that an A4E, 4V100 had reported an engine compartment explosion and had been cleared for and was starting to execute an approach to Runway 34. I proceeded directly to the Control Tower and upon arrival was informed that the radio transmission from 4V100 had faded out and radio communications were lost. In addition, I was told that 4V100 had dumped fuel and was on a high, deep base leg for Runway 34. At this time I visually sighted 4V100 just turning on a long, high final approach. Because my attention was divided between watching 4V100 and other air traffic control functions plus crash and rescue procedures, I do not know at what point the landing gear was extended, however I first became aware that the gear was down at approximately three miles. At this point the aircraft appeared to be set up on a good final approach with a rate of descent that would allow him to reach the field. From my observations I am confident that the aircraft still had at least partial power available at this time. The fact that the gear was lowered and the drop tanks had not been jettisoned contributed to this opinion. The rate of descent appeared to remain constant until approximately one-half to three-quarters of a mile. At this point a puff of smoke appeared as if the pilot attempted to add power and the rate of descent increased. It was not until this point that I had had any doubt that the landing would be effected safely. As the aircraft lost altitude rapidly, the angle of attack increased. Just prior to striking the water the left wing dropped sharply, was picked up, and the right wing dropped. This was corrected to a wings level attitude with the angle of attack decreased slightly. The aircraft contacted the water in a wings level, slightly nose high attitude. On impact the aircraft immediately flipped over on its back and I lost sight of it because it was concealed by the seawall. At this point I concentrated my attention entirely on the control of airborne aircraft that required diversion to other airfields.

(b) (6)



STATEMENT OF LCDR (b) (6) /1310, USN  
AIRASRON THREE TWO NAS QUONSET POINT, R. I.

I was the pilot of the first S2F (MANPOWER 38) in a flight of two S2F's preparing to take off on a flight from NAS Quonset Point, Rhode Island.

At approximately 1328, I was the #1 aircraft holding short of the approach end of runway 34, when 4 VICTOR called declaring an immediate emergency. This transmission was followed in about 30 seconds with a transmission explaining that he (4 VICTOR) had experienced an explosion of some kind in the engine. The pilot was advised to keep the tower informed of his position and continue with his approach.

Approximately 2 minutes later, Quonset Tower informed the pilot of 4 VICTOR that they had the aircraft in sight and that he was dumping fuel. This transmission was acknowledged by the pilot of 4 VICTOR and was the last transmission I heard 4 VICTOR make.

I first observed 4 VICTOR about 2 miles from the approach end of runway 34, lined up directly with the runway, for a straight-in type approach.

As the aircraft approached the runway it appeared to be getting into a nose high condition, while continuing to settle toward the water short of the approach end. It did not appear as if the pilot had any power available to stop the rate of descent. The aircraft collided with the water about 15 feet short of the seawall and immediately flipped over tail first, coming to rest upside down, immediately adjacent to the seawall. The aircraft was observed to be in a gear down condition from first observation until impact. The time of the crash was approximately 1333.

I am a designated Naval Aviator with 4100 hours of flight time.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OBNAVINST 3750.6 SERIES

Enclosure (6)

ENCL (6)

25 January 1966

STATEMENT OF LCDR (b) (6) /1310, USN, VS-32, NAVAL AIR STATION,  
QUONSET POINT, RHODE ISLAND

I was co-pilot of Manpower 38 which was holding short of runway 34 awaiting take off clearance. Aircraft Four Victor (A4) received take-off clearance and I estimate five minutes later I heard him call Quonset Tower and declare an immediate emergency. The tower cleared him back for landing and asked his position and nature of emergency. I understood him to say he was five miles west and had had an explosion in the aft part of the aircraft. Shortly thereafter there was a garbled transmission from Four Victor and the Tower said they did not have him in sight. A very few seconds later the tower said they did have him in sight, and that he was dumping. Four Victor acknowledged and I heard no more transmissions from him. I estimate about a minute later I observed Four Victor approximately two miles out on a straight in to runway 34. He was in a landing configuration. As he progressed on final it became apparent that he was extremely low and cocked-up. I made mention of this to my pilot at that time. Four Victor continued in and landed in the water approximately fifty feet short of the bulkhead. On impact the aircraft flipped over, topside in the water. The aircraft was extremely cocked-up on impact. I estimate that crash trucks were at the bulkhead within one minute and crash boats alongside shortly thereafter. Time of the crash was approximately 1333 local.

I am a designated Naval Aviator with approximately nine and one-half years experience and 2850 hours of flight time.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (7)

ENCL (7)



25 January 1966

STATEMENT OF LCDR (b) (6) /1310, USN, AIRASRON 32, NAVAL  
AIR STATION, QUONSET POINT, RHODE ISLAND

At the time of the accident I was the pilot of the second S2F of a flight of two S2F's at the approach end of runway 34 awaiting take-off clearance. Two A-4's from O & R had just taken off, one or two aircraft had been cleared to land, when Four Victor called that he was declaring an immediate emergency. He reported that he heard a muffled explosion in his engine. The tower acknowledged his transmission and cleared him for landing. The tower asked his position, and I believe he reported being five miles west of the field. The tower notified him that he was not in sight, to keep the tower informed of his progress. Shortly thereafter the tower reported they observed him dumping fuel. No transmissions were heard from the aircraft after this transmission to the tower requesting that they verify his fuel dumping properly.

I first observed the aircraft one to 2 miles from the approach end of runway 34 in the landing configuration. As the aircraft approached the runway it appeared to be getting more and more cocked up, as though he were trying to stretch a glide. It didn't seem as though he had any thrust from the engine available. Just prior to his colliding with the water it appeared as though the aircraft became extremely unstable, as though it was stalling out. Due to my position behind the first S2F I was unable to observe the aircraft colliding with the water.

I am a designated Naval Aviator with 4100 hours of flight time.

(b) (6)

ENCLOSURE (8)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (8)



26 January 1966

STATEMENT OF (b) (6), ACC, USN, TOWER SUPERVISOR

While on duty in the Quonset Point Control Tower on 25 January 1966, as the Tower Supervisor, the following is my statement on the events prior to and after the crash of 4V100, A4, attached to O&R NAS Quonset Point.

In the control tower we had been involved with an A-1 and an A-4 landing with unsafe wheels. 4V100 A4 had been delayed on his departure due to these two aircraft. I would estimate 15 to 20 minutes delay.

I was primarily involved with paperwork with the first two aircraft when 4V100 A4 departed. However shortly after 4V100's departure I heard the call made to Quonset tower by 4V100 requesting emergency landing R/W 34, position 4 west and reporting an inflight explosion.

I immediately pushed the crash horn to alert the crash vehicles and was turning to pass the information via squawk box to all stations in the Operations building as CDR (b) (6) advised me to pull the crash phone. This I did passing all information I had regarding aircraft identification, position and the fact the aircraft had an inflight explosion and was making an emergency landing on R/W 34.

I then directed my attention to find the aircraft visually and spotted him almost immediately approximately two miles out on final, slightly left of centerline and high. I checked the aircraft with binoculars and wheels appeared to be down.

I would estimate at 1/4 mile out on final the aircraft seemed to waiver slightly and started to drop rapidly. It appeared to me with the nose down and left wing low the aircraft struck short of the runway and nosed over on its back. Due to the snow, mud and water spray, the aircraft was completely out of sight. When the debris settled the aircraft was not visible and appeared to be in the water short of the seawall.

At this time I had just secured the crash phone for the second time. I had pulled the phone when it became apparent to me the aircraft would not make the runway. The aircraft had crashed and I was passing the information to all stations almost immediately.

At this time I immediately closed the field and broadcasted on the FM gear clearance for all vehicles to proceed to the scene. The next few minutes I was busy diverting aircraft to South Weymouth and Otis and advising all concerned that the field would be closed for an indefinite period.

I immediately set myself up on the FM 40.82 mcs to relay instructions from the on-scene commander and relay requests and instructions as received. I had four aircraft waiting departure - two at the approach end of the runway and two on R/W 5. Due to the time involved these aircraft were not moved because of snow banks and no place to put them. After the crash they were taxed to their lines.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (9)

ENCL (9)

25 January 1966

STATEMENT OF (b) (6), AC1, USN, LOCAL CONTROLLER

4V100 reported four or five miles west requesting immediate landing. I requested type emergency. 4V100 replied explosion in the aircraft. 4V100 was cleared to land R/W 34, given the wind and altitude. About two minutes later I requested 4V100's position and he replied high 900 or higher over Jamestown Bridge, dumping. I advised 4V100 that I had him in sight and he was cleared to land.

4V100 made another transmission but was very weak. I told him he was weak. (At the end of my transmission I noted 4V100 was talking so his transmission was blocked.) No further transmissions were received from 4V100.

NOTE: 4V100 was held in the runup spot for an extended time for two aircraft to land with unsafe landing gear. The time was about 15 or 20 minutes.

(b) (6)

ENCL (10)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (1)



ENCL (11)



VIEW OF A/C SHOWING DAMAGE TO NOSE SECTION

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE (11)



ENCL (12)



VIEW OF A/C BEING HOISTED ABOARD YSD-34  
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE



VIEW OF A/C ON DECK OF YSD-34

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE

ENCL (14)



VIEW OF A/C DURING RIGHTING PROCEDURE ON PIER

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE (14)



OVERHAUL (C/P) 2115		2. ACCOUNT NO. 214	3. DATE OF D/I 2/4/66	4. ASSEMBLY NOMENCLATURE AND NO.		ENGINE <input checked="" type="checkbox"/>						
NAS QUONPT RI												
5. ASSEMBLY (Model) J65-W-16A		6. ASSEMBLY (Serial) 612029	7. ASSEMBLY MFR 66640	8. DATE REMOVED 1/26/66	9. REMOVED FROM (Eng Ser) ---	10. REMOVED FROM (Eng Ser) ---						
11. TOTAL HRS SINCE NEW 459	12. HRS SINCE LAST O/H 0	13. DATE LAST O/H 12/9/65	14. LAST OVERHAUL ACTIVITY NAS QUONPT		15. NO. PREV O/H 6	16. AIRCRAFT (Model) A-4B						
17. AIRCRAFT (BUND) 142095												
18. OPERATING ACTIVITY QUONPT (O&R)		19. FUR - CFM - BAR - 1/PH/GA ---		20. REASON FOR REMOVAL AND CODE Accident damage (4B)								
21. FINDINGS		BASIC (MFG/DESIGN) DISCREPANCY <input type="checkbox"/>		NON-BASIC (MAINT/OPER) DISCREPANCY <input type="checkbox"/>		FOREIGN OBJECT DAMAGE <input checked="" type="checkbox"/>						
22. DISCREPANCY <input type="checkbox"/>												
23. DESCRIPTION OF FINDINGS (Include name and part no. of primary part failure)												
<p>Prior to removal of the engine from the aircraft, a break in the engine compressor upper housing was found at the 12 o'clock location (see enclosure (1)). A piece of the housing was lying on the exterior of the front main bearing support No. 1 strut pad. A puncture was noted in the aircraft skin at fuselage station 212 right hand side, approximately tangent to the break in the engine compressor housing. After engine removal, another piece of compressor housing was found in the fuselage.</p> <p>The engine had negligible external damage (see enclosures (2), (3) and (4)).</p> <p>Engine disassembly revealed the following:</p> <p>Most compressor rotor blades stages 1 thru 3 had tips broken off approximately 1 inch. Blades were bent in a direction opposite to rotation and were severely rubbed</p>												
24. PERTINENT BULLETINS, CHANGES, ETC., INCORPORATED		<table border="1"> <thead> <tr> <th>NUMBER</th> <th>YES</th> <th>NO</th> </tr> </thead> <tbody> <tr> <td>J65 BB 389</td> <td>X</td> <td></td> </tr> </tbody> </table>					NUMBER	YES	NO	J65 BB 389	X	
NUMBER	YES	NO										
J65 BB 389	X											
25. GRES 114		<table border="1"> <thead> <tr> <th>APPLICABLE</th> <th>INCORPORATED</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> </tr> </tbody> </table>					APPLICABLE	INCORPORATED		X		
APPLICABLE	INCORPORATED											
	X											
26. DATE 2/4/66												
27. SIGNATURE C. E. LAGER, JR.		28. TITLE DESIGN AND DEVELOPMENT SUPT.										

REPORT SYMBOL BUMPS 4730-2

DISASSEMBLY AND INSPECTION REPORT NAVWEPS FORM 4730/2 (11-61)

at leading and trailing edges (see enclosures (5) thru (10)).

Two 1st stage compressor rotor blades were broken off 3-1/2 inches above the platforms, one blade was broken off 1/2 inch above the platform. Six blades had the butt locking tang broken off and one blade locking tang was cracked. The compressor housing was rubbed all around at the first stage blade land.

One 2nd stage compressor rotor blade was broken off 3/4 inch above the platform and one was broken off 3-1/2 inches above the platform.

**DISTRIBUTION:**

TSF PHILA  
 JWEPS (FAE-34, RAPP-2, FSA-3)  
 VAVNSAFECEN  
 VFRRLANT  
 COMNAVIAIRLANT  
 COMFAIR NORVA  
 NAS OCEANA  
 NAS ALAMEDA  
 RIC WOOD-RIDGE  
 DAC

CNO  
 COMONE  
 CGAIRFMFPAC  
 CGAIRFMFLANT  
 DIRECTOR AEROSPACE SAFETY  
 NORTON AFB  
 CHNAVMA  
 WAD REP (2)  
 PARALIAISON OFFICE  
 ENGINEERING & QUALITY OFFICER

ENCL (15)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ORDEN)

Enclosure (15)

One or more blades in stages 1, 2 and 3 had leading edge damage probably due to ingestion of a foreign object.

Most aluminum rotor blades stages 4 thru 7 were broken at the platform fillets, remaining blades were gouged, rubbed and bent opposite to rotation.

Eighth stage rotor blades were gouged, nicked and bent opposite to engine rotation.

Ninth thru thirteenth stage rotor blades were nicked and gouged. Blade tips were bent, but there was no appreciable rotational damage.

All inlet guide vanes were broken from the carrier rings (see enclosure (13)). Thirty vanes, still attached to the upper or lower shroud, were lying loosely in the compressor section and were easily removed thru the front main bearing support housing intake passages. Five additional vanes were found loose in the compressor section. All vanes had trailing edge rub and gouging.

All stator blades in stages 1 and 2 were broken from their carrier rings. In the top housing, all 3rd stage stator blades and twelve 4th stage stator blades were broken out. In the lower housing, several 3rd stage stator blades and all but two of the 6th stage stator blades were broken out.

Leading edges of stator blades still installed were nicked and gouged but had no rotational damage. Stator blade trailing edges exhibited rotational damage thru the 8th stage. Stator blades in stages 9 thru 13 had bending and gouging, decreasing in amount in the latter stages.

Combustion chamber inner and outer liners were metallized on aft flange areas, all turbine rotor and stator blades were moderately metallized. Small particles of steel and aluminum were found throughout the engine interior and bearing cooling air passages. The vapor duct had moderate rub marks at the 3 to 6 o'clock location. Several 1st and 2nd stage turbine rotor blades had lightly rubbed the shrouds at the 1 to 3 o'clock location. All main engine bearings, gearbox assemblies and accessory drives were in satisfactory condition. The fuel pump and fuel control were flow bench tested and met overhaul test limits. The fuel flow dividers were examined and found in satisfactory condition. All fuel system components were found to have no contamination.

#### CONCLUSIONS

Engine damage is attributed to a failure occurring in the forward stages of the compressor section, probably the failure of a first stage compressor rotor blade.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

#### CONCLUSIONS (contd)

Materials Laboratory examination disclosed that all breaks and fractures were secondary damage, with no evidence of any material defect; therefore, failure is believed to have been initiated by ingestion of a foreign object. Indentations on several blade leading edges closely matched the diameter of a No. 10 bolt (0.190 inches).

A first stage blade failure is evidenced by the housing rubbing, which occurred severely only at the first stage, and the breaking out of the upper housing. The piece of housing found in the fuselage had the rub indications, and also a deep gash that penetrated almost through the wall of the case. It is believed the failed blade pierced the compressor housing and passed through the aircraft fuselage skin.

The extreme engine compressor damage and the pattern of turbine blade metallization indicate that engine failure probably occurred in two separate steps. First, induction of an object, probably of ferrous material, which caused compressor damage resulting in blade failure. At this time, while turbine blades were at operating temperatures, the blades were metallized with steel particles.

Subsequently, gross and rapid failure of the compressor section occurred, causing sudden engine seizure as evidenced by lack of rotational damage aft of the 8th stage. A slight amount of aluminum metallizing occurred as small streaks on the first stage turbine rotor and stator blades. The aluminum was in small globules with almost no fusion to the blade, indicating the blades were below normal operating temperature.

Engine rotation had stopped prior to impact.

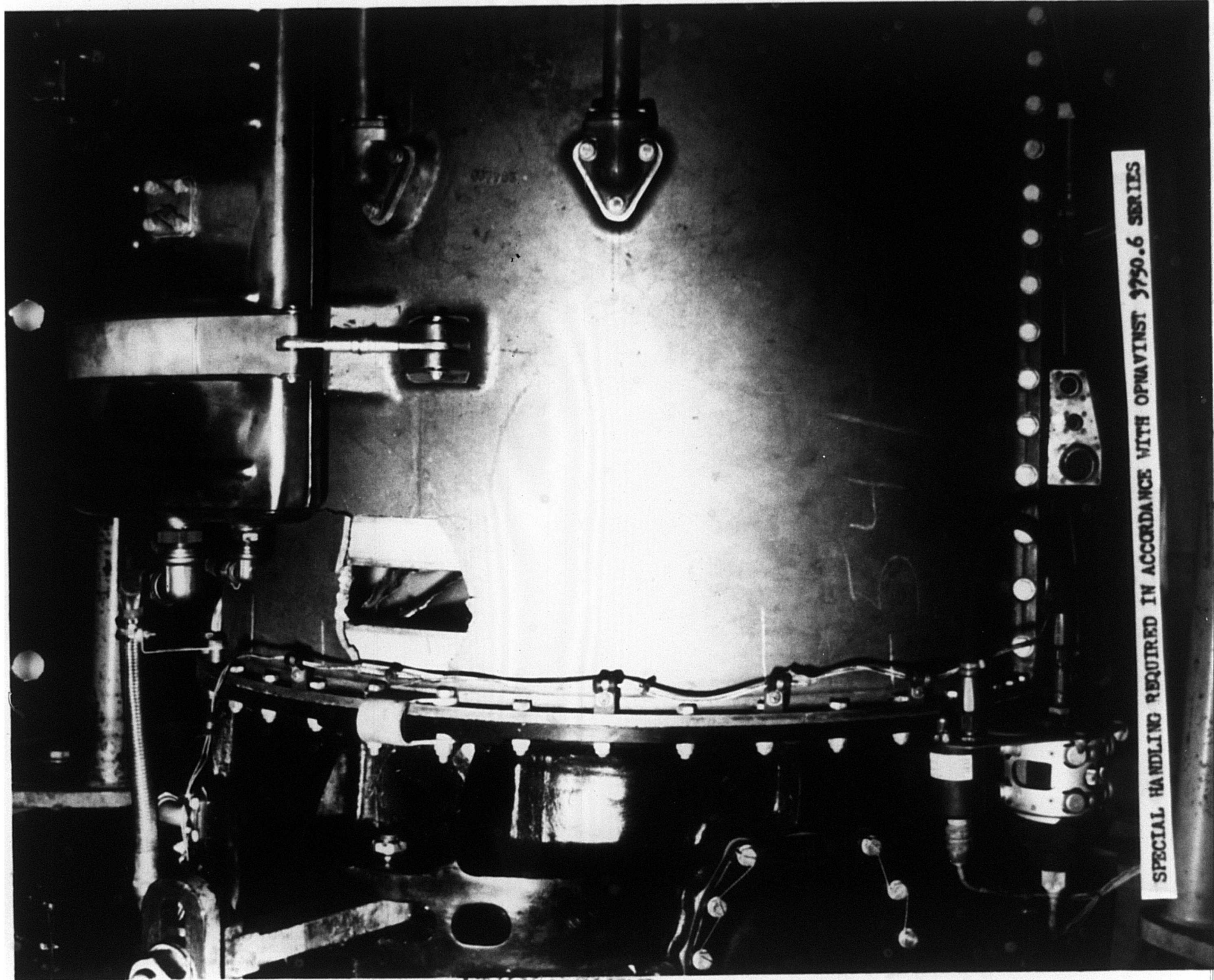
Small amounts of a red fiber material were found on the compressor section components, and two particles were present in the cooling air passages at the rear main bearing sleeve. Material Laboratory examination determined that the material was similar to that of warning streamers attached to the various ground locking devices. The minute amount of fibers found is believed insufficient to conclude that a streamer was inducted. Examination of numerous streamers revealed that fraying of the fabric is common, and ingestion of small amounts of fibers could occur during ground operation with streamers installed.

#### RECOMMENDATIONS

Use extreme precautions to prevent the entrance of foreign objects into the engine.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

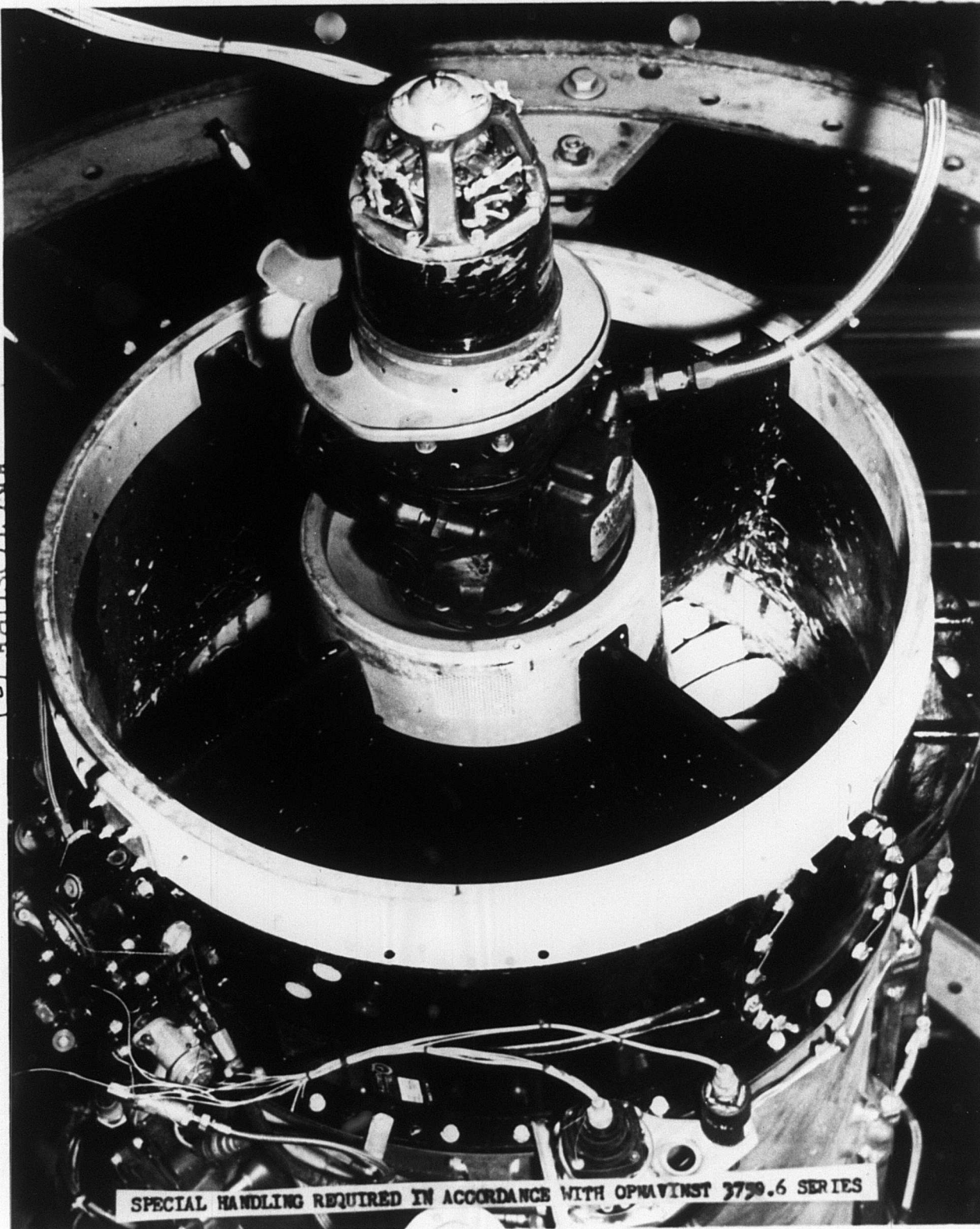




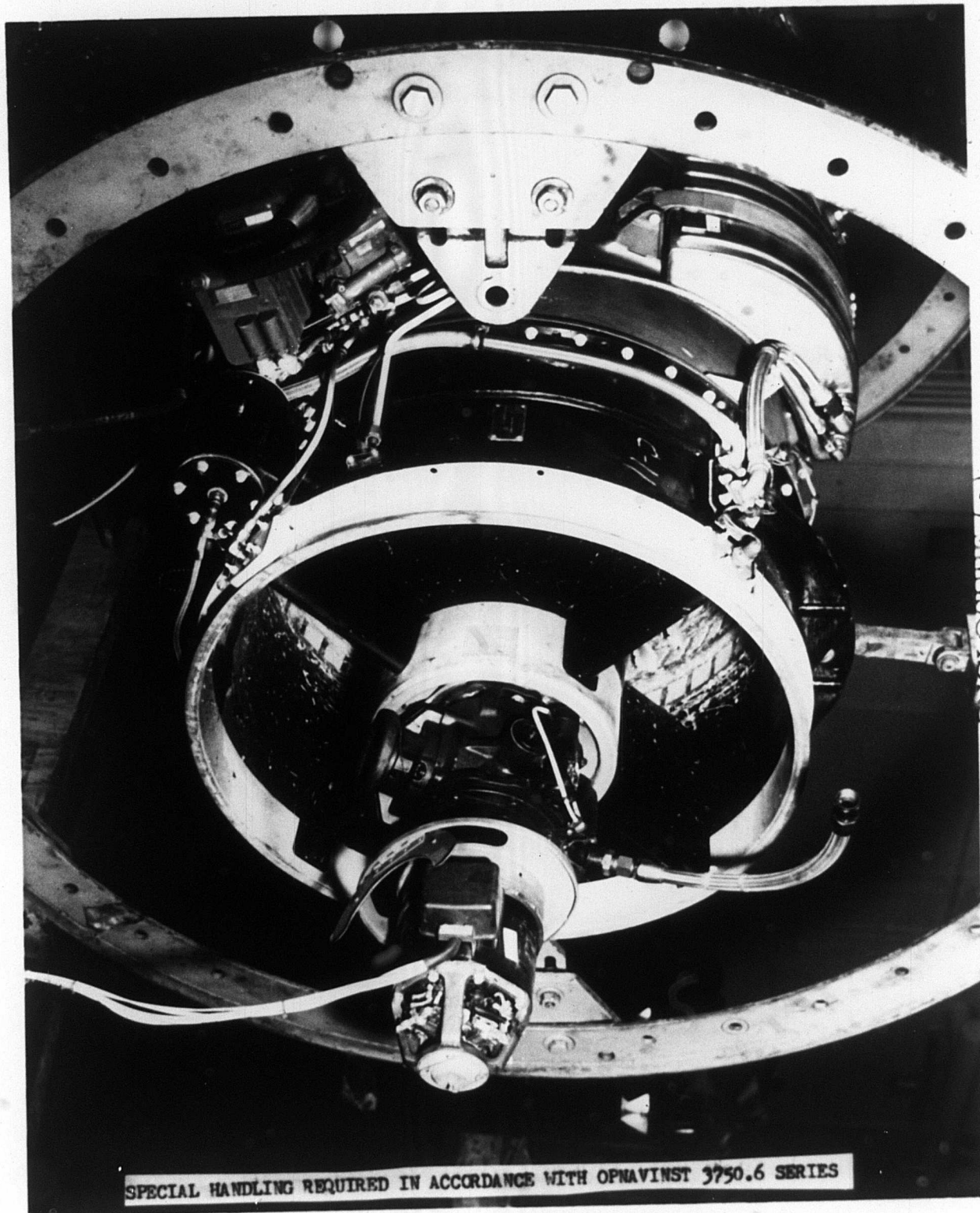
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 9750.6 SERIES

ENCLOSURE (1)

ENCLOSURE (2)



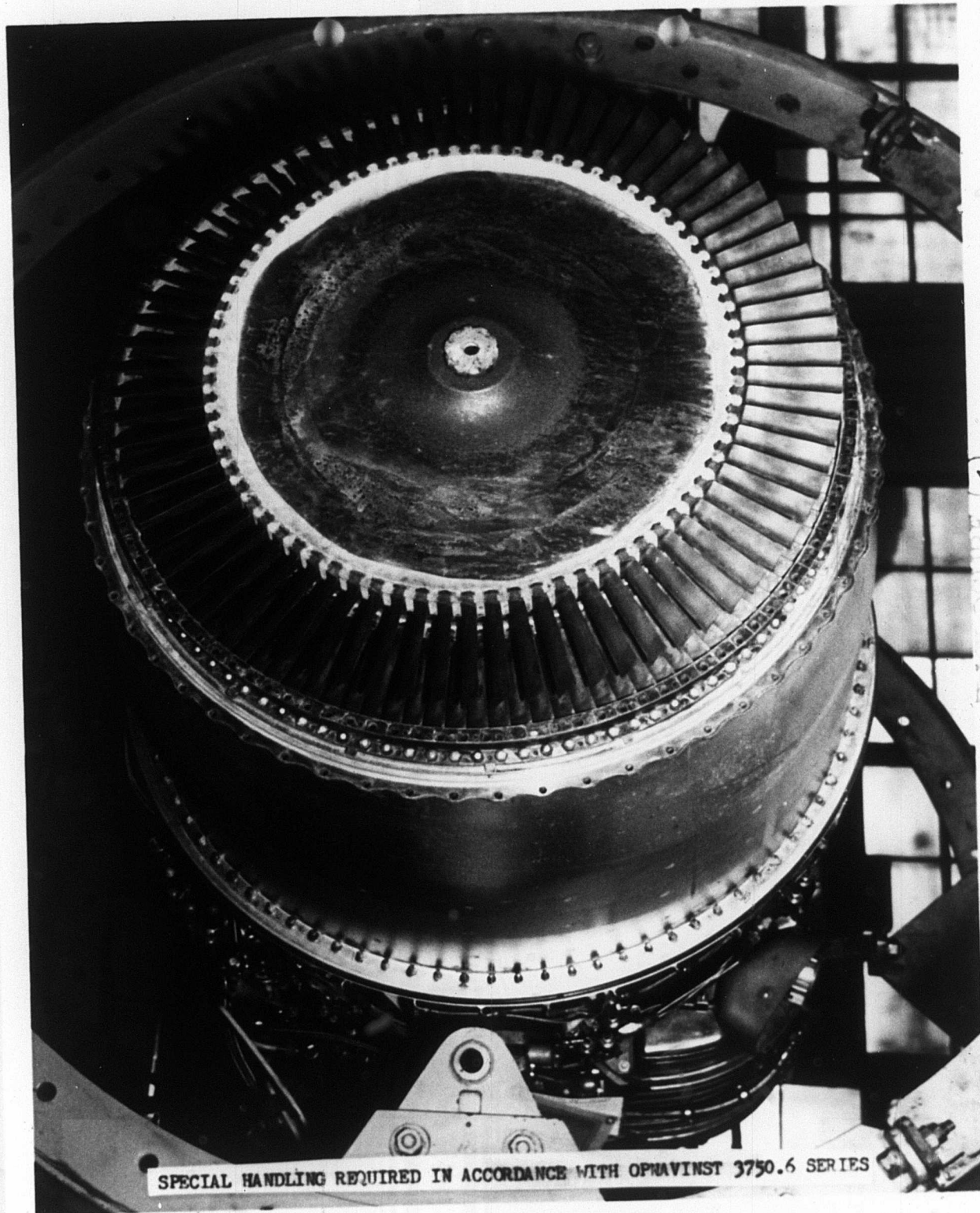
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

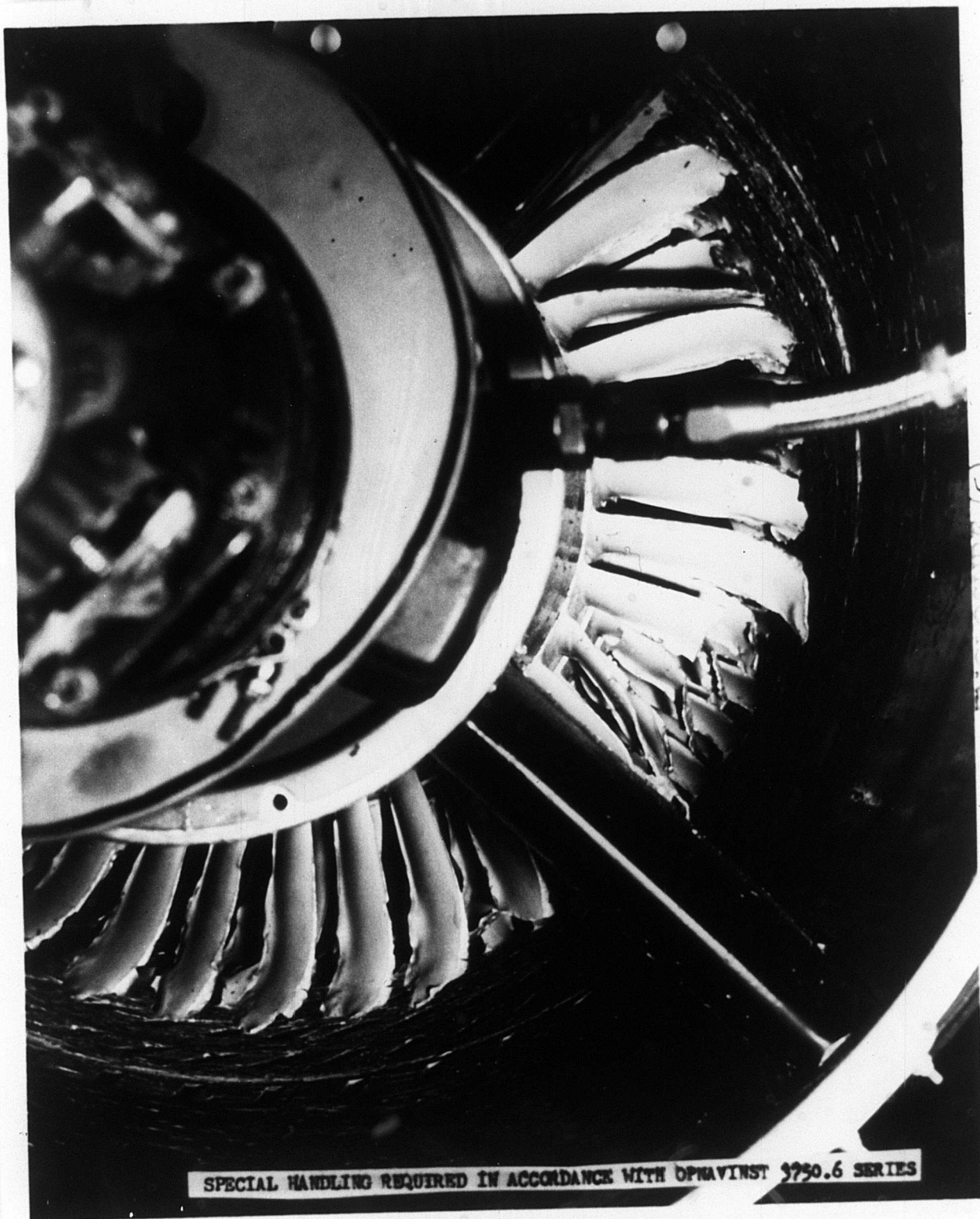


ENCLOSURE (3)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES







ENCLOSURE (5)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES



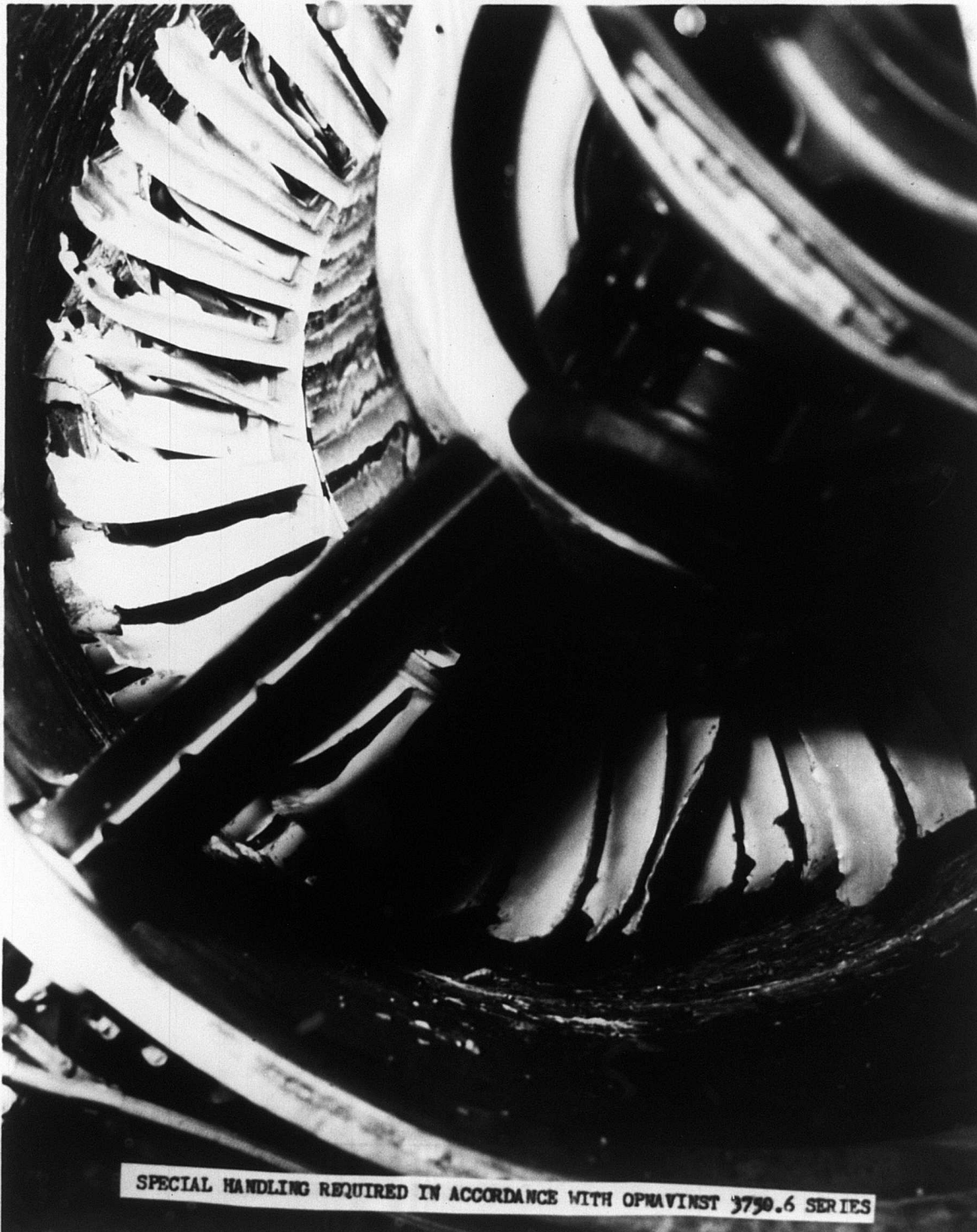
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3790.6 SERIES



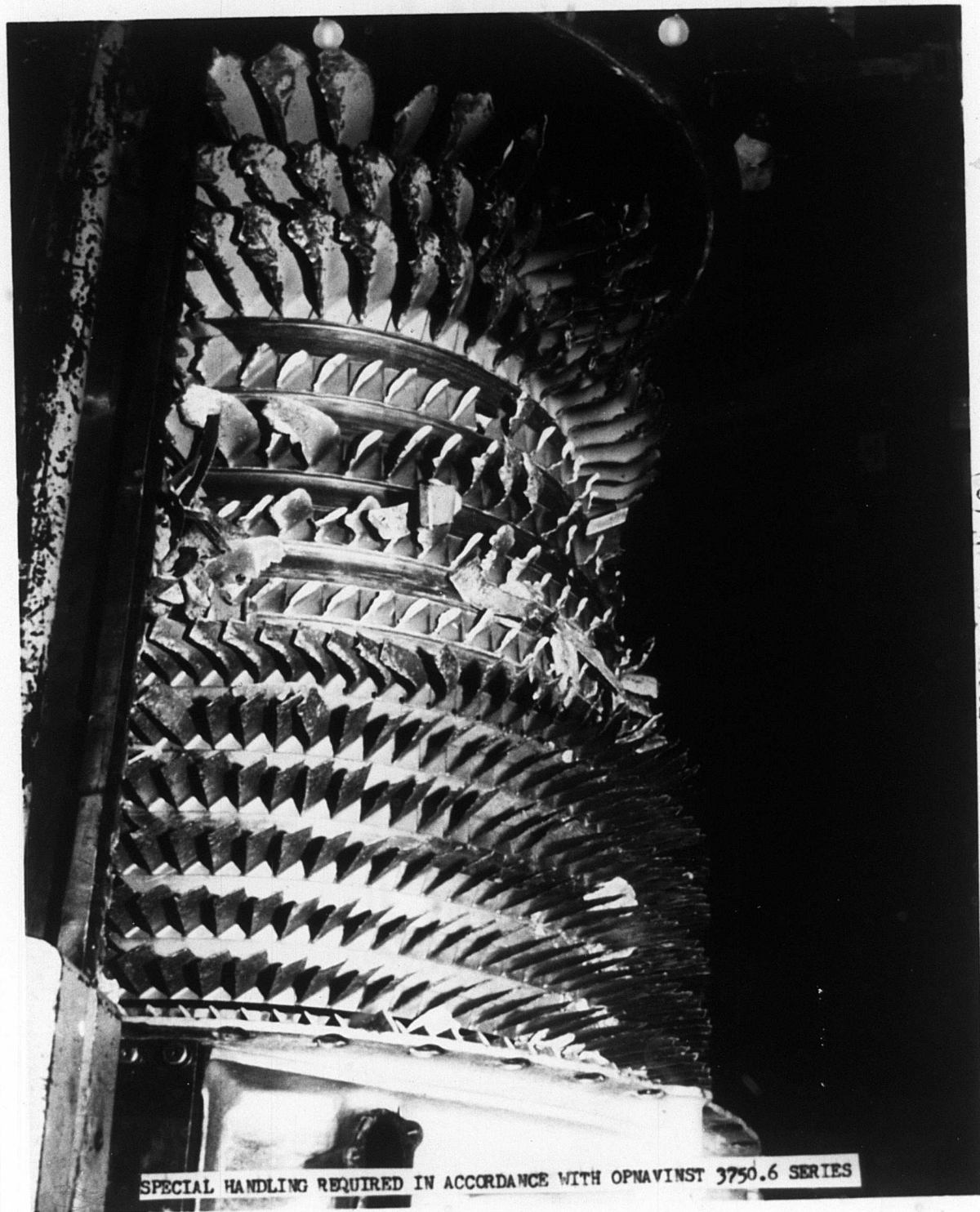
ENCLOSURE (7)



SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES



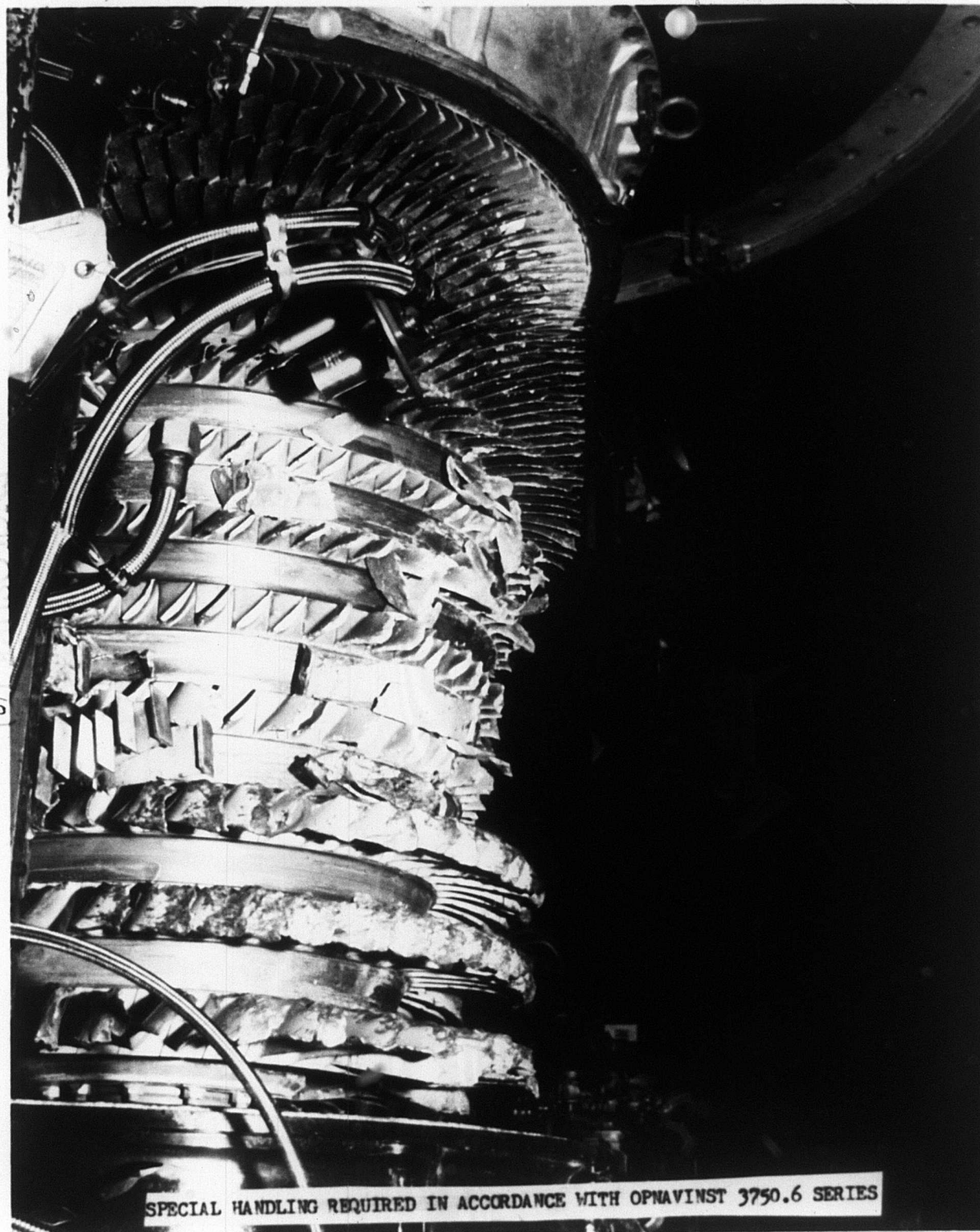
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES



ENCLOSURE (9)



ENCLOSURE (9)



SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE (II)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

7 February 1966

STATEMENT OF CDR (b) (6) /1510, USN  
OVERHAUL AND REPAIR DEPARTMENT PRODUCTION MANAGER

The apparent cause of subject crash is foreign object damage to the engine, causing loss of power and the resultant landing on the water as the pilot attempted to reach the runway. The crash occurred on the first flight after the aircraft had undergone progressive aircraft repair at the Overhaul and Repair Department of NAS Quonset Point.

To date the probable cause of foreign object damage has not been determined. All personnel concerned have been questioned to determine whether or not there was any change in maintenance procedures on the subject aircraft which could have made it more susceptible to foreign object damage than aircraft previously or subsequently processed through the Overhaul and Repair Department. The results of this interrogation have been negative. The aircraft was processed in accordance with the same procedures and safeguards which have successfully minimized foreign object damage.

Due to the extensive examination and scrutiny given the engine during and subsequent to jet calibration, which occurred on this aircraft on 13 January 1966, it is considered highly probable that the damage occurred as a result of objects introduced subsequent to that date.

Since a routine investigation has revealed nothing to explain the damage a special committee has been established to determine the source of foreign object damage in this case. Based on the results of this committee study, maintenance procedures will be improved as recommended to prevent future instances of foreign object damage. Pending the conclusion of this study an additional step has been added to the final pre-flight inspection of all aircraft. This step consists of a detailed examination of the engine inlet for possible foreign objects and for damage to the compression entrance stage. In addition, steps have been taken to stress the importance of and to improve general cleanliness during aircraft processing.

(b) (5)

(b) (6)

ENC. (16)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (16)



MEDICAL OFFICER'S REPORT OF A/C ACCIDENT, INCIDENT, OR GROUND ACCIDENT - PAC

OPNAV REPORT 3750.7

OPNAV 3750.7 (REV. 3-63)

SPECIAL HANDLING REQUIRED - See OPNAVINST 3750.6E (g) instructions.

SECTION A - IDENTIFICATION

1. FROM (Name and mailing address of activity) <b>U.S.N.A.S. Quonset Point, R. I.</b>				2. MOR NUMBER <b>1-66</b>		3. LEAVE BLANK	
4. TYPE OF MISHAP <input checked="" type="checkbox"/> ACCIDENT <input type="checkbox"/> GROUND ACCIDENT <input type="checkbox"/> INCIDENT		5. TIME & ZONE <b>1332R</b>		6. DATE <b>25 Jan 66</b>		7. GEOGRAPHICAL LOCATION <b>100 ft off shore at approach end runway 34</b>	
8. MODEL A/C <b>A 4B</b>		9. BUNO <b>142095</b>		10. NO. OF OCCUPANTS <b>one</b>		11. DAMAGE CODE <b>Alpha</b>	
12. UNIT OPERATING A/C <b>N.A.S. Quonset Point</b>		13. INDIVIDUALS INVOLVED USE ADDITIONAL SHEETS IF REQUIRED NAME (Last, first and middle initial)		14. UNIT TO WHICH ATTACHED		15. RANK/ RATE	
16. FILE/SERV. NO. DESIGNATOR <b>(b) (6)</b>		17. DUTY ASSIGNMENT ABOARD A/C AT MISHAP <b>A</b>		18. DATE OF LAST PHYSICAL <b>Jul 65</b>		19. PHYSICALLY QUALIFIED FOR FLIGHT <b>yes</b>	
20. BRANCH OF SERVICE <b>USNR</b>		21. INJURY CODE <b>A</b>		22. DISPOSITION <b>F</b>			
23. CLARIFICATION OF ITEMS 13-22 WHEN NECESSARY							

24. MODEL-OTHER A/C IF INVOLVED	25. BUNO	26. NO. OF OCCUPANTS	27. UNIT OPERATING A/C	28. DAMAGE CODE	29. MOR NO.
---------------------------------	----------	----------------------	------------------------	-----------------	-------------

30. NARRATIVE ACCOUNT OF MISHAP (Use additional 8 x 10 1/2 sheets if required)

The pilot preflighted the A 4B for an initial test hop and indicated no discrepancies. He was subsequently held in the run up area for about 15 minutes while two a/c with unsafe gear indication landed. He was cleared for takeoff on runway 34, and 1 1/2 minutes after indicating "rolling" he declared an inflight emergency and described an explosion in his engine. Ground witnesses reported an explosion as the a/c passed overhead 3 miles distant from the field; altitude is assumed to have been 800 to 1200 ft and airspeed about 300 kts. The pilot then reported his position as 5 miles west of the field. He was cleared to land on runway 34 (length 8,000 ft) and was advised that arresting gear was not available (the pilot was previously aware that snow at the sides of the runway would prevent the gear from being utilized.) The a/c was initially sighted by the tower about 2 miles south of the field, high and lined up for a straight in approach, and in a landing configuration. The approach appeared to be good until approximately 1/2 mile out the a/c appeared to be getting low (estimated 200 ft or below). For a moment there appeared to be a gain in thrust, and the sink rate stabilized. Then the engine apparently failed completely. The a/c developed a very rapid sink rate subsequently striking the bay in a somewhat nose high attitude and settling inverted in about 7 ft of water just short of the approach end of the field.

31. PRIMARY CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD

**Jet engine failure due to foreign object damage.**

32. CONTRIBUTING CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD

33. POSSIBLE CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD

34. HAVE ALL FINDINGS, CONCLUSIONS, & RECOMMENDATIONS BEEN MADE AVAILABLE TO THE A/C ACCIDENT BOARD? IF NO, EXPLAIN.

YES ☒ NO ☐

35. REPORT PREPARATION CHECK LIST

☒ ALL PARTS OF FORM COMPLETED

☒ DRAWINGS SKETCHES, PHOTOS

☐ SURVIVORS NARRATIVES

☒ WITNESS STATEMENTS

☒ CONCLUSIONS & RECOMMENDATIONS

☒ REQUIRED COPIES FURNISHED

36. REPORT FILED BY (Name & signature of medical officer)

**(b) (6)**

**10 Feb 66**

**Wm. J. SCARPINO  
CAPT, USN**

**14 FEB 1966**

**LT, MC, USN**

ENC. (17)



### INDIVIDUAL CHRONOLOGICAL DATA

SEE PAGE 8 PARA. 10 OF INSTRUCTION  
TO BE COMPLETED ON PLANE COMMANDER, PILOT, CO-PILOT, OTHER INDIVIDUAL  
IN CONTROL OF AIRCRAFT AT TIME OF MISHAP, AND/OR INDIVIDUAL CAUSING THE MISHAP

USE LOCAL TIME AND BRIEFLY RECORD ACTIVITY WITHIN EACH COLUMN

#### 48 HOURS PRIOR TO MISHAP

TIME	
1000	EA 1P initial test; uneventful. Flight 1.3 hrs.
1200	Lunch in ready room.
1245	A 4B initial test; preflight then taxi and hold in run up position 15 min.
1328	"Rolling"
ACCIDENT PHASE	
1329:30	Declared inflight emergency
1332	STRIKE
ESCAPE PHASE	
	Egress from a/c not possible due to its inverted position on bottom of bay pinning him in the crushed cockpit.
	Salvage operations utilizing YSD.
SURVIVAL PHASE	
	Pilot pronounced dead upon removal of a/c from bay.

### TIME OF RESCUE

MOR NO.	MODEL A/C	BIBNO	IDENTIFICATION OF INDIVIDUAL
1-66	A 4B	142095	
NAME OF INDIVIDUAL			
Phillip G. RICHARDSON			







Enclosures to N.A.S. Quonset Point MOR 1-66

- ENCL (1) Statement of Control Tower Supervisor
- (2) " " Control Tower Operator
- (3) Transcript of tower tape
- (4) Statement of RATCC Officer
- (5) " " LGDR (b) (6)
- (6) " " Boat Branch Diver
- (7) " " AVT
- (8) " " AME
- (9) Autopsy Protocol (four pages)
- (10) Photograph of a/c inverted in the bay
- (11) " showing damage to nose section
- (12) " " view of cockpit
- (13) " " " " "

ENCL (14) through (20) Seven photographs of deceased  
forwarded under separate cover to  
Aviation Safety Center, Aero Medical Dept., code 40

Special Handling Required in Accordance with OPNAVINST 3750.6

MOR 1-66 A 4B EUNO 142095

Phillip G. RICHARDSON



26 January 1966

STATEMENT OF (b) (6), ACC, USN, TOWER SUPERVISOR

While on duty in the Quonset Point Control Tower on 25 January 1966, as the Tower Supervisor, the following is my statement on the events prior to and after the crash of 4V100, A4, attached to O&R NAS Quonset Point.

In the control tower we had been involved with an A-1 and an A-4 landing with unsafe wheels. 4V100 A4 had been delayed on his departure due to these two aircraft. I would estimate 15 to 20 minutes delay.

I was primarily involved with paperwork with the first two aircraft when 4V100 A4 departed. However shortly after 4V100's departure I heard the call made to Quonset tower by 4V100 requesting emergency landing R/W 34, position 4 west and reporting an inflight explosion.

I immediately pushed the crash horn to alert the crash vehicles and was turning to pass the information via squawk box to all stations in the Operations building as CDR (b) (6) advised me to pull the crash phone. This I did passing all information I had regarding aircraft identification, position and the fact the aircraft had an inflight explosion and was making an emergency landing on R/W 34.

I then directed my attention to find the aircraft visually and spotted him almost immediately approximately two miles out on final, slightly left of centerline and high. I checked the aircraft with binoculars and wheels appeared to be down.

I would estimate at 1/4 mile out on final the aircraft seemed to waiver slightly and started to drop rapidly. It appeared to me with the nose down and left wing low the aircraft struck short of the runway and nosed over on its back. Due to the snow, mud and water spray, the aircraft was completely out of sight. When the debris settled the aircraft was not visible and appeared to be in the water short of the seawall.

At this time I had just secured the crash phone for the second time, I had pulled the phone when it became apparent to me the aircraft would not make the runway. The aircraft had crashed and I was passing the information to all stations almost immediately.

At this time I immediately closed the field and broadcasted on the FM gear clearance for all vehicles to proceed to the scene. The next few minutes I was busy diverting aircraft to South Weymouth and Otis and advising all concerned that the field would be closed for an indefinite period.

I immediately set myself up on the FM 40.82 mcs to relay instructions from the on-scene commander and relay requests and instructions as received. I had four aircraft waiting departure - two at the approach end of the runway and two on R/W 5. Due to the time involved these aircraft were not moved because of snow banks and no place to put them. After the crash they were taxied to their lines.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (8)

25 January 1966

STATEMENT OF (b) (6), AC1, USN, LOCAL CONTROLLER

4V100 reported four or five miles west requesting immediate landing. I requested type emergency. 4V100 replied explosion in the aircraft. 4V100 was cleared to land R/W 34, given the wind and altitude. About two minutes later I requested 4V100's position and he replied high 900 or higher over Jamestown Bridge, dumping. I advised 4V100 that I had him in sight and he was cleared to land.

4V100 made another transmission but was very weak. I told him he was weak. (At the end of my transmission I noted 4V100 was talking so his transmission was blocked.) No further transmissions were received from 4V100.

NOTE: 4V100 was held in the runup spot for an extended time for two aircraft to land with unsafe landing gear. The time was about 15 or 20 minutes.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (2)

TRANSCRIPT OF TOWER TAPE RECORDING

Tower 4 Victor, taxi into position and hold.

4 Victor 4 Victor

Tower 4 Victor, check the aircraft turning left off the end.  
Cleared for take-off.

4 Victor 4 Victor, rolling.

4 Victor Navy Quonset Tower, this is 4 Victor declare emergency.  
Immediate landing 34.

Tower Roger 4 Victor, what is your distance and direction from  
the field, please?

4 Victor I am just about 5 miles west of the field. Had an  
explosion in the engine of some sort.

Tower Roger 4 Victor. You will be cleared to land on runway  
34. No arresting gear available. The winds are 20  
degrees at 5, altimeter 3020.

4 Victor 4 Victor

Tower 4 Victor, what is your position?

4 Victor About a mile to the west

Tower 4 Victor, your transmissions fading very badly. Request  
you keep me advised throughout your traffic pattern.

4 Victor Do you hold me?

Tower 4 Victor, do not hold you at this time, continue approach.  
Roger, I hold you now, you're dumping.

4 Victor (garbled) Field/Fuel does it look like I'm dumping?

Tower Roger, I have you.

4 Victor Okay, roger.



26 January 1966

STATEMENT OF CDR (b) (6) /1310, RATCC OFFICER

I was in the tower when 4V100 called for an immediate landing. He reported that he had an engine compartment explosion. I ordered Chief Chesnutt, the tower supervisor, to pull the crash alarm telephone, which he did. I directed my initial attentions to the movement of emergency equipment and the availability of the runway. Runway 34 was clear and available; emergency equipment was moving into position; and the "A" stand controller, Reason, ACL, cleared 4V100 to land. He had reported his position as 5 miles west. (Meantime, I called O6R Flight Test Ready Room and reported 4V100's situation and asked them to pass the word to the O6R Officer).

We then searched the sky to the southwest for 4V100. He was sighted at a long 45 degree position at about four miles. I hesitate to estimate his altitude.

My main attentions were directed to the actions of tower personnel, crash and rescue equipment movements, and the passing of information. I was not critically aware of his speed, altitude or position until he was in close. I did observe that his wheels were down and he had at least partial flaps.

When 4V100 was at about 1/4 miles from runway 34 threshold, he was lower and slower than I wanted to see him. I remarked to another observer that 4V100 was not going to make it unless he had considerable power available. At that point, he increased his angle of attack and his power came on, quite visibly, for a few seconds and then suddenly decreased.

Immediately after the decrease he stalled. First, his left wing dropped, then his right, in quick succession. He seemingly fought them both successfully and then the nose dropped. I think he struck the water in a nearly flat attitude, some left yaw, very slightly right wing down. As soon as his wheels touched he flipped inverted in shallow water. No fire, no explosion! Crash site was about 300 feet from runway 34 threshold and about 125 feet from the retaining wall bulkhead.

At this point my attention was again divided. I checked the position of the crash rescue boat and the movement of the boat and crash trucks. I noted that all emergency equipment was given immediate clearance to the scene, that the field was closed to other aircraft traffic, that CDR (b) (6), the Air Operations Officer, departed for the crash scene, that the word was being passed on the crash alarm circuit. These actions took only a few seconds. I then telephoned the Executive Officer, who already had the word from the crash circuit. He stated that he would inform the Commanding Officer.

Thereafter my efforts were divided between assisting rescue efforts and diverting airborne traffic.

I am the RATCC Officer, RATCC #6, Naval Air Station, Quonset Point, Rhode Island. I am a Naval Aviator with twenty-three years of flying experience.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES ENCL (4)

At approximately 1830Z I was notified via the crash phone circuit that an A4E, 4V100 had reported an engine compartment explosion and had been cleared for and was starting to execute an approach to Runway 34. I proceeded directly to the Control Tower and upon arrival was informed that the radio transmission from 4V100 had faded out and radio communications were lost. In addition, I was told that 4V100 had dumped fuel and was on a high, deep base leg for Runway 34. At this time I visually sighted 4V100 just turning on a long, high final approach. Because my attention was divided between watching 4V100 and other air traffic control functions plus crash and rescue procedures, I do not know at what point the landing gear was extended, however I first became aware that the gear was down at approximately three miles. At this point the aircraft appeared to be set up on a good final approach with a rate of descent that would allow him to reach the field. From my observations I am confident that the aircraft still had at least partial power available at this time. The fact that the gear was lowered and the drop tanks had not been jettisoned contributed to this opinion. The rate of descent appeared to remain constant until approximately one-half to three-quarters of a mile. At this point a puff of smoke appeared as if the pilot attempted to add power and the rate of descent increased. It was not until this point that I had had any doubt that the landing would be effected safely. As the aircraft lost altitude rapidly, the angle of attack increased. Just prior to striking the water the left wing dropped sharply, was picked up, and the right wing dropped. This was corrected to a wings level attitude with the angle of attack decreased slightly. The aircraft contacted the water in a wings level, slightly nose high attitude. On impact the aircraft immediately flipped over on its back and I lost sight of it because it was concealed by the seawall. At this point I concentrated my attention entirely on the control of airborne aircraft that required diversion to other airfields.

(b) (6)



STATEMENT OF ROHR, (b) (6)

26 January 1966

MM1(DV), BOAT BRANCH DIVER

When I went down to investigate the airplane crash that was in the water off the approach end of Runway 34, I first observed that the nose of the plane was crushed back to the cockpit.

The canopy on the plane was smashed and it looked like the weight of the plane was resting on the pilot. I touched the shoulder of the pilot with no response about twenty minutes after crash.

(b) (5)

(b) (5)

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (6)



STATEMENT OF (b) (6)

AVIATION PHYSIOLOGY TECHNICIAN

At approximately 1330, 25 January 1966, I received word of an aircraft in the water. I arrived at the scene approximately 1345/1350. Aircraft inverted in approximately 5-6 feet of water with the right wing up above water. I boarded the crash boat carrying Dr. (b) (6). When the boat neared the aircraft, I tried to detect any air bubbles coming from the aircraft but saw no air bubbles either from the cockpit area or the LQOX vent. Approximately 35/45 minutes after I arrived on the scene I saw the first diver (b) (6), MM1) enter the water and apparently attempt to check the pilot who was still trapped in the aircraft. The diver signaled what appeared to mean that the canopy was smashed and apparently no response from the trapped pilot. About five minutes or so later two other divers entered the water and checked the aircraft, indicating the canopy smashed. After some delay during which various methods and attempts were made to raise the aircraft, a floating crane arrived and the aircraft was raised from the water. After the aircraft was raised and moved over the boat, Dr. (b) (6) examined the pilot and pronounced him dead. (Dr. (b) (6) LCDR (b) (6) OIC, myself and others transferred from the crash boat to the crane boat upon its arrival.) The crane boat with aircraft aboard moved from the scene of the crash to the pier. Upon arrival at the pier a call was placed for an AME to de-arm or safety the ejection seat, so that the body could be removed. After some delay, (b) (6) AME1, arrived and he and I got into a small boat (punt) and went under the inverted aircraft. We could not find the seat pins normally carried in the cockpit and there was some delay while pins were obtained. When the seat pins arrived he and I went back under the aircraft and he safetyed the seat. At this time or prior some men arrived from O & R with a shipping cap for the head of the rocket and (b) (6) placed the cap in place. With the seat thus safetyed, (b) (6) HM2 (b) (6) and myself started to remove the body. (b) (6) tried the harness release handle but this would not work (did not release). (b) (6) said the right lower rocket jet fitting was free. The left upper rocket jet fitting was also free. Both (b) (6) and myself attempted to release the right upper rocket jet fitting but was unable to do so, being pressured by time and people we decided to cut the harness. While we were cutting the harness I released the left lower rocket jet fitting. After cutting the harness the right upper rocket jet fitting was released and the body was freed except for the legs and the oxygen connections. The legs were freed and HM2 (b) (6) released the O<sub>2</sub> connections (mask hose from the supply hose) the O<sub>2</sub> mask was still connected to the right side of the helmet. During freeing of the pilot's legs the knee board was removed from the left knee area. The shroud cutter and survival knife were removed from the body and used to cut the harness. The drogue chute and main personnel parachute were free of the container. The body thus free and removed from the aircraft was brought to the station hospital.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure (7)

25 January 1966

STATEMENT OF (b) (6)

AME1, USN, O&R DEPARTMENT

Ejection Seat: Face curtain was still in the stowed position with the rocket firing gear still in position.

Canopy: Bungee was fired by accident or manually interlock cam and pin assy. disconnected.

Parachute arming lanyard was fired right seat rocket jet was disconnected.

Oxygen mask on left side disconnected.

Before removing pilot, installed safety pin pulled cotter pin from clevis bolt, removed bolt leaving rocket firing gear disconnected. Installed rocket head protective cover.

Moving under the pilot in a flat bottom punt I attempted to pull the harness release handle but it was jammed. Right rocket jet fitting would not release. I removed pilot's survival knife from leg pocket of flight suit and cut webbing at rocket jet fitting to release pilot.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure 6



25 January 1966

STATEMENT OF (b) (6)

AME1, USN, O&R DEPARTMENT

Ejection Seat: Face curtain was still in the stowed position with the rocket firing gear still in position.

Canopy: Bungee was fired by accident or manually interlock cam and pin assy. disconnected.

Parachute arming lanyard was fired right seat rocket jet was disconnected.

Oxygen mask on left side disconnected.

Before removing pilot, installed safety pin pulled cotter pin from clevis bolt, removed bolt leaving rocket firing gear disconnected. Installed rocket head protective cover.

Moving under the pilot in a flat bottom punt I attempted to pull the harness release handle but it was jammed. Right rocket jet fitting would not release. I removed pilot's survival knife from leg pocket of flight suit and cut webbing at rocket jet fitting to release pilot.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Enclosure 6



# CLINICAL RECORD

# AUTOPSY PROTOCOL

DATE AND HOUR DIED		A. M.	DATE AND HOUR AUTOPSY PERFORMED	A. M.	CHECK ONE		
25 Jan. 1946 1330		P. M.	25 Jan. 1946 1130	P. M.	FULL AUTOPSY	HEAD ONLY	TRUNK ONLY
PROSECTOR		ASSISTANT					
(b) (6)		(b) (6)					

Aircraft Accident

## PATHOLOGICAL DIAGNOSES

Cause of death Asphyxiation due to fracture laryngeal cartilage and pulmonary edema, secondary to drowning.

Heart: Minimal coronary arteriosclerosis.

Lungs: Pulmonary edema.

Larynx: Fracture of cartilage.

Skull: Fracture comminuted, left. (gross and x-ray)

Other: Multiple superficial lacerations right hand, right knee, left knee, left lower leg, neck.

## APPROVED—SIGNATURE

U.S. PHYSICIAN, SIGN NO. USE		AGE	SEX	RACE	IDENTIFICATION NO.	AUTOPSY NO.
MILITARY ORGANIZATION (If required)					(b) (6)	400-07
PATIENT'S IDENTIFICATION (For typed or written entries give: Name—last, first, middle, grade, date, hospital or medical facility)					REGISTER NO.	WARD NO.
RICHARDSON, Phillip Guy LT JG (b) (6) 71315						
DO NOT WRITE						

AUTOPSY PROTOCOL  
Standard Form 503  
503-104  
1A 0109-201-1603

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENC(9) PA(1)

ECEN DE COMN NR078726  
DGE RA 481  
RR RUCKDG  
DE RUEGPA 044 0262058  
ZNR UUUUU  
R 261832Z  
FM NAS QUONPT  
TO RUECM/CNO  
RUCKDG/NAVAVSAFETYCN  
INFO. RUECM/BUWERS  
RUEGMC/COMONE  
ZEN/COMFAIRQUONSET  
RUCKDA/COMNAVAIRLANT  
RUECC/CGAIRFMFAC  
RUECC/CGAIRFRFLANT  
RUECH/BUWERS  
RUCKDP/BWFRRLANT  
RUMJEBG/BUWERSREP EL SEGUNDO  
RUEGUC/BUWERSREP WOODRIDGE NJ  
RUMHNF/DIRECTOR AEROSPACE SAFETY NORTON AFB  
RUECM/CHNAVMA  
BT

78/26/66

→ JR Quon Point SUPP AAR  
bkg made  
2/3/66 dw

UNCLAS  
FOR OFFICIAL USE ONLY  
SUPPLEMENTARY MESSAGE REPORT OF AIRCRAFT ACCIDENT

- A. OPNAVINST P3750.6E  
B. NAS QUONPT 232230Z  
1. A4B, 142095, NAS QUONPT, 1-66 A, RICHARDSON  
2. LOCAL, NAS QUONPT TO NAS QUONPT, VFR TEST, 00 PLUS 08.  
3. ALFA. SALT WATER IMMERSION. FORWARD FUSLAGE ASSEMBLY TO  
AFT EDGE OF COCKPIT ENCLOSURE CRUSHED BEYOND REPAIR. EXTENT OF  
ENGINE DAMAGE UNKNOWN.

PAGE TWO RUEGPA 044 UNCLAS

4. LANDING IN WATER SHORT OF RUNWAY.  
5. AIRCRAFT TOOK OFF ON INITIAL TEST FLIGHT AFTER FIFTH PAR.  
ABOUT THREE MINUTES AFTER TAKE OFF, WHILE CLIMBING, PILOT REPORTED  
EXPLOSIONS IN THE ENGINE AND DECLARED AN EMERGENCY. HE WAS CLEARED  
BY THE TOWER FOR A STRAIGHT IN APPROACH TO RUNWAY 34. AIRCRAFT  
REPORTED DUMPING FUEL AND CONTINUEDSAPPROACH WITH GEAR AND FLAPS  
DOWN. GROUND OBSERVERS REPORTED A SMOKE PUFF WHEN THE AIRCRAFT  
WAS ON FINAL AT AN ESTIMATED ALTITUDE OF 300 TO 400 FEET ABOUT  
1/4 TO 1/2 MILE FROM THE RUNWAY. SUBSEQUENT INREASE IN SINK RATE  
INDICATED A PROBABLE LOSS OF POWER AT THIS TIME. THE NOSE  
ATTITUDE OF THE AIRCRAFT WAS SEEN TO INCREASE AND THE AIRCRAFT  
STRUCK THE WATER IN AN APPARENTLY STALLED CONDITION. IT CAME TO  
REST INVERTED IN SIX FEET OF WATER WITH THE NOSE POINTING AWAY  
FROM THE RUNWAY.  
6. RELATIVE WIND 055/6, CLEAR, HIGH THIN SCATTERED, 33, 22, OVER 15.  
7. NONE  
8. PRIORITY DIR REQUESTED ON ENGINE AND RAPEC SEAT.  
9. NA  
10. SEE PARA 5. ABOVE  
11. NA  
12. ENGINE J-65-W-16A SER NO. W612029.  
BT.

261832Z JAN

A4B 142095 NAS quonpt AAR 1-25-66